

HEALTH, SAFETY, ENVIRONMENTAL AND REMEDIATION WEEKLY REPORT Williams AFB ST012

Site No.: 9101-11-0001

Week Ending 11 November 2016

I. SITE SUBCONTRACTOR SUMMARY

Company	Sat	Sun	Mon	Tue	Wed	Thu	Fri
Amec Foster Wheeler			X	X	X	X	X
Terra Therm							
MP Environmental			X	X	X	X	X
Yellow Jacket			X	X	X	X	X

II. SCHEDULE / SITE ACTIVITIES REVIEW

A. SEE Demolition - None

B. Well Drilling and Development

- Drilled and installed the following characterization wells (development to follow):
 1. LSZ57
 2. SB-19 (well not installed)
- Installed well completions at CZ25, LSZ53, and LSZ58
- Initiated setting extraction pumps in wells

C. EBR Construction - None

D. Containment System Construction

- Completed installation and pressure testing of wellfield piping
- Placed air stripper skid in final location
- Power wired to extraction wells
- Installed treatment system control panel

E. Sampling/Monitoring

- SEE/EBR well LNAPL monitoring/removal
- Removal of eductors and LNAPL monitoring at the following wells:
 1. CZ17
 2. UWBZ20
 3. LSZ33
 4. LSZ40

F. SVE System Operation/Optimization

- Routine operation
- Operated the flame-oxidizer in parallel with the thermal oxidizer.
 1. There were no shutdowns of the thermal oxidizer this week.
 2. There were no shutdowns of the flame oxidizer this week.

III. SVE OPERATING DATA

A. Thermal Oxidizer Destruction Efficiency/Mass Removal Summary

The destruction efficiency and mass removal calculations for the thermal oxidizer are tabulated below. A correction factor was applied to PID readings based on available analytical data and corresponding PID data. This factor is updated each time new analytical data is available and may retroactively alter previously reported data.

Date Period Began	Date Period Ended	Days in Period	Time Thermal Oxidizer Operated	Thermal Oxidizer Uptime	Influent Concentration (PID)	Influent Concentration (Adjusted PID) ^(c)	Effluent Concentration (PID)	Effluent Concentration (Adjusted PID) ^(c,g)	Calculated Destruction Efficiency ^(a)	Flowrate into Oxidizer (End of Period) ^(e)	Estimated VOC Mass Removed ^(b)	Average Daily Removal Rate ^(b)	Estimated VOC Mass Released to Atmosphere ^(b)	Average VOC Mass Released to Atmosphere ^(b)
---	---	days	hrs	%	ppmv	mg/m ³	ppmv	mg/m ³	%	scfm	lbs/period	lbs/day	lbs/period	lbs/day
4/7/2016	4/15/2016	7	112	63%	560	10,776	4.6	4.2	99.96%	1,396	6,312	847	2	0.33
4/15/2016	4/21/2016	6	147	100%	342	6,581	1.0	0.9	99.99%	1,571	5,692	929	0.8	0.13
4/21/2016	4/29/2016	8	188	99%	296	5,696	2.6	2.4	99.96%	1,396	5,600	711	2.3	0.29
4/29/2016	5/5/2016	6	130	90%	179	3,445	1.6	1.5	99.96%	1,396	2,342	390	1.0	0.16
5/5/2016	5/20/2016	15	323	90%	394	7,582	0.5	0.5	99.99%	1,047	9,605	640	0.6	0.04
5/20/2016	5/26/2016	6	146	100%	699	14,913	42.2	38	99.74%	698	5,693	936	14.6	2.40
5/26/2016	6/2/2016	7	166	99%	340	7,254	62.2	56	99.22%	698	3,149	450	24.5	3.50
6/2/2016	6/10/2016	8	164	85%	679	10,931	1.2	1.1	99.99%	1,309	8,791	1,099	0.9	0.11
6/10/2016	6/17/2016	7	167	99%	462	7,438	12.7	12	99.85%	1,047	4,872	696	7.5	1.08
6/17/2016	6/24/2016	7	165	98%	179	2,882	0.6	0.5	99.98%	1,466	2,611	373	0.5	0.07
6/24/2016	6/27/2016	3	74	100%	431	8,516	0.0	0.0	>99.99%	1,920	4,533	1,470	0.0	0.00
6/27/2016	6/29/2016	2	47	100%	N/A	8,516	N/A	0.0	>99.99%	1,152	1,727	882	0.0	0.00
6/29/2016	7/8/2016	9	215	100%	697	13,772	0.2	0.3	>99.99%	524	5,812	649	0.1	0.01
7/8/2016	7/14/2016	6	128	89%	1080	23,314	1.3	1.8	99.99%	489	5,467	911	0.4	0.07
7/14/2016	7/22/2016	8	56	29%	848	18,306	7.6	10	99.94%	698	2,680	335	1.5	0.19
7/22/2016	7/29/2016	7	163	97%	636	16,947	10.2	14	99.92%	628	6,499	928	5.3	0.76
7/29/2016	8/4/2016	6	84	58%	681	18,146	1.5	2	99.99%	1,466	8,370	1,395	0.9	0.16
8/4/2016	8/11/2016	7	168	100%	475	17,982	1.2	2	99.99%	698	7,899	1,128	0.7	0.10
8/11/2016	8/18/2016	7	120	71%	476	18,020	1.6	2	99.99%	768	6,221	889	0.8	0.11
8/18/2016	8/25/2016	7	168	100%	285	10,789	2.2	3	99.97%	628	4,266	609	1.2	0.17
8/25/2016	9/1/2016	7	167	99%	498	17,548	1.4	2	99.99%	489	5,368	767	0.6	0.08
9/1/2016	9/8/2016	7	169	100%	986	34,744	3.7	5	99.99%	986	21,689	3,080	3.2	0.45
9/8/2016	9/15/2016	7	145	87%	605	21,319	12.5	17	99.92%	419	4,850	697	3.9	0.56
9/15/2016	9/22/2016	7	169	100%	454	15,821	18.4	72 *	99.55%	419	4,195	596	19.0	2.69
9/22/2016	9/29/2016	7	167	99%	475	16,553	18.5	72 *	99.57%	628	6,503	929	28.2	4.04
9/29/2016	10/6/2016	7	166	99%	805	15,402	1.9	7 *	99.95%	628	6,015	859	2.9	0.41
10/6/2016	10/13/2016	7	165	98%	578	11,059	1.1	4 *	99.96%	489	3,343	478	1.3	0.18
10/13/2016	10/20/2016	7	136	81%	620	8,440	18.8	73 *	99.13%	441	1,896	271	16.4	2.35
10/20/2016	10/27/2016	7	170	100%	699	9,516	1.8	7 *	99.93%	494	2,994	423	2.2	0.31
10/27/2016	11/3/2016	7	166	100%	631	4,915 *	0.8	3 *	99.94%	524	1,601	232	1.0	0.15
11/3/2016	11/10/2016	7	173	100%	602	4,689 *	1.2	5 *	99.90%	489	1,486	206	1.5	0.21

Notes:

% - percent	scfm - standard cubic feet per minute
hrs - hours	TPH - total petroleum hydrocarbons
JP-4 - jet petroleum fuel grade four	PID - photoionization detector
lbs - pounds	SVE - soil vapor compound
mg/m ³ - milligrams per cubic meter	VOC - volatile organic compound
ppmv - parts per million by volume	

* Concentration and associated calculated values may change after receipt of subsequent analytical data.

(a) Calculated destruction efficiencies are calculated using a single sampling event for each week, not using the average influent and effluent results.

(b) Mass and volumes are calculated based on laboratory data for TPH reported as JP-4. As has been the basis for previous calculations at ST012, the average molecular weight of TPH as JP-4 is assumed equivalent to xylene (106.168 grams per mole). The assumed liquid density of the fuel is 6.57 lbs per gallon.

(c) The influent PID correction factor calculation has been revised to reflect a three-value rolling average (the average of the correction factor for the analytical sample collected one event prior, the current event, and one event after). The correction factor for 11 March 2016 has been removed as anomalous during the post-steam operation period based on the subsequent six months of correction factors calculated. The average for the 07 April through 21 April 2016 period incorporates only 25 April and 23 May 2016 correction factors.

(e) To address inconsistencies in influent PID and flow rate measurements, system piping was changed on 13 October 2016. Flow rate measurements prior to this date are reported in acfm, and after this date are reported in scfm.

(f) An incorrect correction factor was used to calculate the Effluent Concentration (Adjusted PID) for the period between 24 June and 8 September 2016. The value has been corrected for that period.

(g) The effluent PID correction factor for the 15 September 2016 sample was anomalous compared to historical values. An average of correction factors from samples before and after this date was used.

B. Flame Oxidizer Destruction Efficiency/Mass Removal Summary

The destruction efficiency and mass removal calculations for the flame oxidizer are tabulated below. A correction factor was applied to PID readings based on available analytical data and corresponding PID data. This factor is updated each time new analytical data is available and may retroactively alter previously reported data.

Date Period Began	Date Period Ended	Days in Period	Time Flame Oxidizer Operated ^(d)	Flame Oxidizer Uptime ^(a)	Influent Concentration (PID)	Influent Concentration (Adjusted PID) ^(f)	Effluent Concentration (PID)	Effluent Concentration (Adjusted PID)	Calculated Destruction Efficiency ^(b)	Flowrate into Oxidizer (End of Period)	Estimated VOC Mass Removed ^(c)	Average Daily Removal Rate ^(c)	Estimated VOC Mass Released to Atmosphere ^(c)	Average VOC Mass Released to Atmosphere ^(c)
---	---	days	hrs	%	ppmv	mg/m ³	ppmv	mg/m ³	%	scfm	lbs/period	lbs/day	lbs/period	lbs/day
8/4/2016	8/11/2016	7	107	64%	509	13,710	17.1	1.1	99.99%	768	4,219	603	0.3	0.05
8/11/2016	8/18/2016	7	91	54%	428	11,528	16.4	1.1	99.99%	768	3,018	431	0.3	0.04
8/18/2016	8/25/2016	7	78	46%	483	13,009	8.9	0.6	>99.99%	838	3,184	455	0.1	0.02
8/25/2016	9/1/2016	7	112	67%	433	10,103	5.6	0.4	>99.99%	768	3,256	465	0.1	0.02
9/1/2016	9/8/2016	7	102	61%	414	9,660	7.2	0.5	>99.99%	942	3,477	497	0.2	0.02
9/8/2016	9/15/2016	7	140	83%	868	20,253	13.6	0.9	>99.99%	1,047	11,121	1,589	0.5	0.07
9/15/2016	9/22/2016	7	149	89%	499	10,431	13.1	1.2 *	99.99%	1,047	6,096	871	0.7	0.10
9/22/2016	9/29/2016	7	158	94%	682	14,256	3.9	0.3 *	>99.99%	1,222	10,311	1,473	0.2	0.04
9/29/2016	10/6/2016	7	119	71%	834	11,860	3.1	0.3 *	>99.99%	977	5,166	738	0.1	0.02
10/6/2016	10/13/2016	7	167	99%	593	8,433	2.4	0.2 *	>99.99%	1,012	5,339	763	0.1	0.02
10/13/2016	10/20/2016	7	117	70%	331	3,364	13.7	1.2 *	99.96%	597	880	126	0.3	0.05
10/20/2016	10/27/2016	7	170	100%	379	3,852	1.4	0.1 *	>99.99%	653	1,602	226	0.1	0.01
10/27/2016	11/3/2016	7	100	60%	444	2,863 *	0.5	0.0 *	>99.99%	669	717	104	0.0	0.00
11/3/2016	11/10/2016	7	174	100%	877	5,655 *	2.0	0.2 *	>99.99%	689	2,540	350	0.1	0.01

Notes:

- % - percent
- hrs - hours
- JP-4 - jet petroleum fuel grade four
- lbs - pounds
- mg/m³ - milligrams per cubic meter
- ppmv - parts per million by volume
- scfm - standard cubic feet per minute
- TPH - total petroleum hydrocarbons
- PID - photoionization detector
- SVE - soil vapor compound
- VOC - volatile organic compound

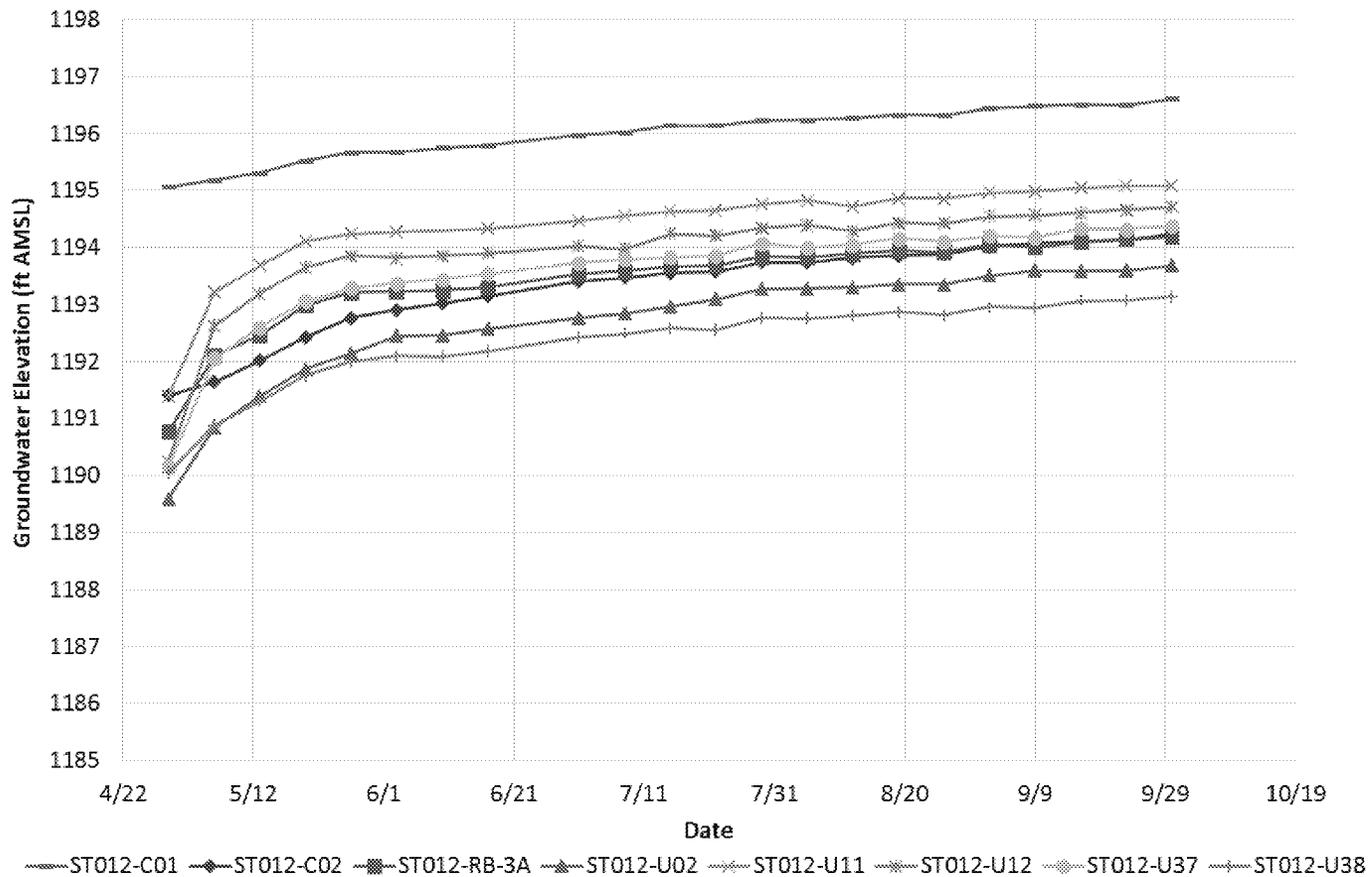
* Concentration and associated calculated values may change after receipt of subsequent analytical data.

- (a) Discrepancies in runtime clocks for the flame oxidizer have been observed since restart. The system is being observed and diagnosed. The primary blower hours are currently used to calculate uptime.
- (b) Calculated destruction efficiencies are calculated using a single sampling event for each week, not using the average influent and effluent results.
- (c) Mass and volumes are calculated based on laboratory data for TPH reported as JP-4. As has been the basis for previous calculations at ST012, the average molecular weight of TPH as JP-4 is assumed equivalent to xylene (106.168 grams per mole). The assumed liquid density of the fuel is 6.57 lbs per gallon.
- (d) An error in hour recording caused an anomaly in hours that the flame oxidizer operated for the weeks ending 25 August and 2 September. The operation hours were estimated based on the flame oxidizer temperature chart recorder.
- (e) To address inconsistencies in influent PID and flow rate measurements, system piping was changed on 13 October 2016. Flow rate measurements prior to this date are reported in acfm, and after this date are reported in scfm.
- (f) The influent PID correction factor calculation has been revised to reflect a three-value rolling average (the average of the correction factor for the analytical sample collected one event prior, the current event, and one event after).

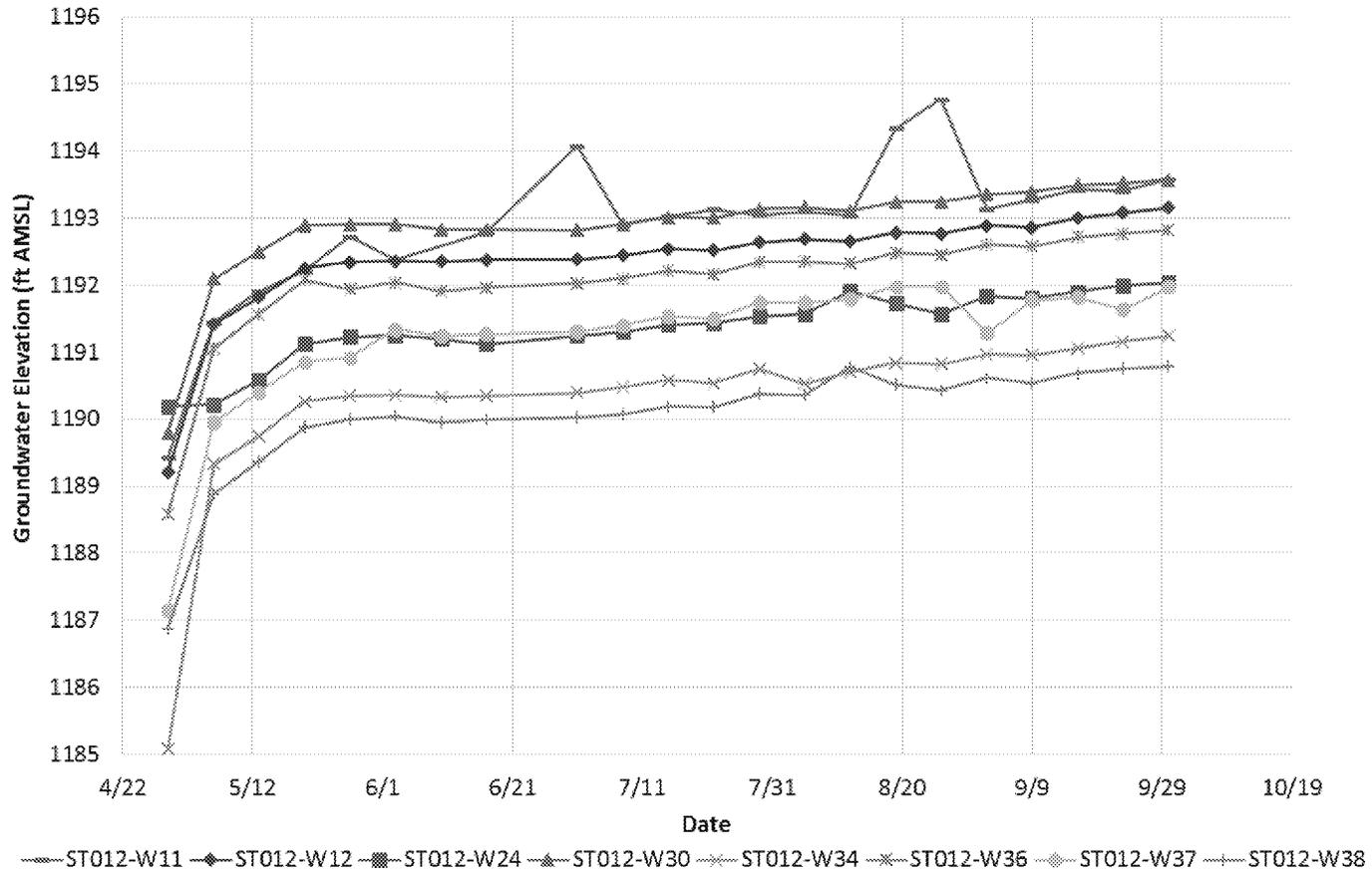
IV. GROUNDWATER ELEVATION MONITORING

Groundwater elevations monitored since the shutdown of the final extraction phase of SEE (29 April 2016). Starting with the week ending 7 October 2016, groundwater elevation monitoring will be performed monthly at all perimeter monitoring locations, except ST012-W11 and ST012-W37, which will be monitored weekly based on continued LNAPL recovery. Monthly perimeter well monitoring will continue until the startup of the planned active containment extraction system, at which time the monitoring frequency will be as described in the ST012 Field Variance Memorandum 5, Extraction and Treatment System Construction. The next monitoring event will be completed during the week ending 18 November 2016.

CZ and UWBZ Groundwater Elevations



LSZ Groundwater Elevations



Note: Increased groundwater elevation in ST012-W11 on 19 August and 26 August 2016 are suspected to be influenced by LNAPL in the monitoring well caused by malfunctioning measuring equipment.

V. SUBSURFACE TEMPERATURE MONITORING

A. Perimeter Monitoring Well Temperatures

The next monitoring event will be completed during the week ending 18 November 2016.

VI. SEE TEMPERATURE MONITORING POINTS

This section will be updated periodically with new temperature monitoring point (TMP) data.

VII. LNAPL MONITORING

A. Perimeter LNAPL Thickness (ft)

Starting with the week ending 7 October 2016, groundwater elevation monitoring will be performed monthly at all perimeter monitoring locations, except ST012-W11 and ST012-W37, which will be monitored weekly based on continued LNAPL recovery. Monthly perimeter well monitoring will continue until the startup of the expected active containment extraction system.

Monitoring Well	10/21/2016			10/28/2016			11/04/2016			11/11/2016		
	Before bailing/pumping	After Bailing/pumping	Weekly Gallons Removed	Before bailing/pumping	After Bailing/pumping	Weekly Gallons Removed	Before bailing/pumping	After Bailing/pumping	Weekly Gallons Removed	Before bailing/pumping	After Bailing/pumping	Weekly Gallons Removed
CZ/UWBZ Wells												
ST012-C01	---	---	---	---	---	---	---	---	---	---	---	---
ST012-C02	---	---	---	---	---	---	---	---	---	---	---	---
UWBZ Wells												
ST012-U02	---	---	---	---	---	---	---	---	---	---	---	---
ST012-U11	---	---	---	---	---	---	---	---	---	---	---	---
ST012-U12	---	---	---	---	---	---	---	---	---	---	---	---
ST012-U37	---	---	---	---	---	---	---	---	---	---	---	---
ST012-U38	---	---	---	---	---	---	---	---	---	---	---	---
ST012-RB-3A	---	---	---	---	---	---	---	---	---	---	---	---
LSZ Wells												
ST012-W11	9.00	0.55	25	2.26	0.00	5.00	---	---	---	---	---	---
ST012-W12	---	---	---	---	---	---	---	---	---	---	---	---
ST012-W24	---	---	---	---	---	---	---	---	---	---	---	---
ST012-W30	---	---	---	---	---	---	---	---	---	---	---	---
ST012-W34	---	---	---	---	---	---	---	---	---	---	---	---
ST012-W36	---	---	---	---	---	---	---	---	---	---	---	---
ST012-W37	21.00	4.10	18	8.64	8.64	0.00	14.64	0.00	10	---	---	---
ST012-W38	---	---	---	---	---	---	---	---	---	---	---	---

B. LNAPL Monitoring and Removal

The table included with this report as Attachment 1 summarizes the removal and monitoring performed at LNAPL screened wells.

VIII. WASTE GENERATION AND RECYCLING

A. LNAPL

1. On 10 November, Mesa Oil removed 300 gallons from the LNAPL storage tank.

IX. TWO WEEK LOOK AHEAD

A. SEE Demolition - None

B. EBR Construction – None

C. Containment System Construction

1. Completion of active containment system construction detailed in Field Variance Memo 05

D. Well Drilling/Development

1. Continued logging and installation of well locations detailed in Field Variance Memo 04

E. Sampling/Monitoring Activities

1. Pumping and bailing to remove NAPL from SEE wells
2. Continued NAPL screening in SEE extraction and injection wells
3. Perimeter well monitoring
4. TMP monitoring

F. SVE System Operation/Optimization

1. Continue operation of flame oxidizer and thermal oxidizer with SVE system

X. ATTACHMENTS

1. LNAPL Monitoring and Removal Table
2. LNAPL Screening Figures based on table in Attachment 1
3. Draft boring logs for completed wells:
 1. LSZ57
 2. SB-19

Attachment 1. LNAPL Monitoring and Removal

The following table summarizes the removal and monitoring performed at LNAPL screened wells. LNAPL monitoring of wells was prioritized based on expected future usage of each well as part of EBR. Subsequent LNAPL monitoring/removal frequency was prioritized based on the amount of LNAPL, the observed LNAPL recharge, and the temperature of each well. LNAPL monitoring and removal was initially conducted weekly at wells with LNAPL and the frequency has been reduced in some locations depending on whether LNAPL returns after pumping/bailing. Currently, two SEE wells with eductors or pumps that were recently removed have not been screened for LNAPL (UWBZ01 and LSZ02). LNAPL screening for these wells is planned for the following week.

Dual screened wells (UWBZ28/LSZ51, UWBZ32/LSZ47, and UWBZ33/LSZ48, and CZ22/UWBZ35) are not routinely checked for LNAPL due to the packers installed between the two screen intervals and the associated air line and injection piping. Periodically, when collecting groundwater samples or doing maintenance work on the packers, LNAPL measurements have been collected. If LNAPL is observed while packers are temporarily removed, LNAPL is assumed to originate from the screened interval(s) that had positive dye test results in soil during well installation.

Any additional wells that are monitored in future weeks will be included on this table:

Well	Date	Able to Use Interface Probe?	NAPL Present (Y/N)	Before Pumping			Bailed/Pumped (Y/N)	NAPL Remaining (Y/N)	After Pumping			LNAPL Removed (Gallons)
				Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)			Depth to Product (ft. bgs)	Depth to Water (ft. bgs)	NAPL Thickness (ft.)	
CZ01	7/19/2016	N	Y	NM	146 ⁽²⁾	0.3 ⁽¹⁾	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	145 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Sheen	144 ⁽²⁾	144 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Y	NM	144 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	147 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/29/2016	N	Y	NM	147 ⁽²⁾	0.06 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	147 ⁽²⁾	0.17 ⁽¹⁾	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	146 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
CZ02	7/12/2016	N	N	---	144 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	Y	NM	147 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
	8/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	9/14/2016	N	Y	NM	147 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	10/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
CZ03	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/11/2016	N	N	---	142 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	11/1/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
CZ04	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
CZ05	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
CZ06	7/11/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	7/13/2016	N	Y	NM	142 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	7/25/2016	N	Y	144 ⁽²⁾	144 ⁽²⁾	0.50 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Y	NM	144 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/16/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0

CZ07	11/1/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
CZ08	7/13/2016	N	Y	NM	147 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	146 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Sheen	146 ⁽²⁾	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	NM ⁽²⁾	146 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM ⁽²⁾	146 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
CZ09	6/22/2016	N	Y	NR	NR	0.13 ⁽¹⁾	N	Y	---	---	---	0
	7/18/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	Y	---	146 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
CZ10	6/23/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	Sheen	146 ⁽²⁾	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/27/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
CZ11	5/23/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	7/7/2016	N	Sheen	---	NM	---	N	Sheen	---	---	---	0
	7/12/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	Y	NM	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
11/1/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0	
CZ12	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/7/2016	N	Y	149 ⁽²⁾	NM	NM	Y	N	NR	NR	NR	1
	6/23/2016	N	N	---	---	---	N	N	---	---	---	0
	6/29/2016	N	N	NM	156 ⁽²⁾	NM	N	N	---	---	---	0
	7/13/2016	N	Y	143 ⁽²⁾	150 ⁽²⁾	7	N	Y	---	---	---	0
	7/19/2016	N	Sheen	---	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	---	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	Sheen	---	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/17/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	Y	---	146 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
11/1/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0	
CZ13	11/4/2016	N	Sheen	---	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
CZ14	5/22/2016	N	N	---	---	---	N	N	---	---	---	0
	5/26/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/7/2016	N	Y	148 ⁽²⁾	NM	NM	Y	N	NR	NR	NR	3
	6/22/2016	N	N	---	---	---	N	N	---	---	---	0
	6/29/2016	N	Sheen	NM	152 ⁽²⁾	NM	N	Sheen	---	---	---	0
	7/7/2016	N	Sheen	---	NM	---	N	Sheen	---	---	---	0
	7/11/2016	N	Sheen	142 ⁽²⁾	142 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	Sheen	NM	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
11/1/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0	
CZ15	11/4/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
CZ16	5/19/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/7/2016	N	Y	151 ⁽²⁾	NM	NM	Y	N	151	NR	NR	1
	6/22/2016	N	N	---	---	---	N	N	---	---	---	0
	6/29/2016	N	N	---	152 ⁽²⁾	---	N	N	---	---	---	0
	7/11/2016	N	N	---	141 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
CZ17	11/7/2016	N	NM	NM	149 ⁽²⁾	NM	N	NM	---	---	---	0
	5/31/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/15/2016	N	N	NM	149 ⁽²⁾	NM	N	N	---	---	---	0

CZ18	6/22/2016	N	Y	NM	NM	0.13 ⁽¹⁾	N	Y	---	---	---	0
	6/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	7/12/2016	N	Y	---	144 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	7/28/2016	N	Y	---	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Y	---	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	NM	147 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/29/2016	N	Y	NM	147 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
10/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0	
CZ19	5/31/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/22/2016	N	N	---	NM ⁽²⁾	---	N	N	---	---	---	0
	6/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	7/12/2016	N	Sheen	147 ⁽²⁾	147 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/28/2016	N	Y	NM	147 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/15/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/23/2016	N	Y	NM	149 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	---	---	---	---	---	---	---	---	---	---	0
	9/14/2016	N	Y	NM	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
10/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0	
11/8/2016	N	Y	NM	148 ⁽²⁾	1.5 ⁽¹⁾	N	Y	---	---	---	0	
CZ20	7/12/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
CZ21*	7/20/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
CZ22/ UWBZ35*	7/20/2015	N	N	---	---	---	N	N	---	---	---	0
	9/2/2016 ⁽⁵⁾	Y	N	---	143.64	---	N	N	---	---	---	0
	9/2/2016 ⁽⁶⁾	Y	N	---	143.58	---	N	N	---	---	---	0
	10/7/2016 ⁽⁵⁾	Y	N	---	143.06	---	N	N	---	---	---	0
	10/7/2016 ⁽⁶⁾	Y	N	---	143.06	---	N	N	---	---	---	0
11/4/2016 ⁽⁷⁾	Y	Y	142.98	143.64	0.66	N	N	---	---	---	0	
UWBZ02	7/12/2016	N	Y	142 ⁽²⁾	169 ⁽²⁾	27 ⁽¹⁾	Y	N	NR	NR	0	25
	7/27/2016	N	Y	NM	149 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/26/2016	N	N	---	152 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	9/14/2016	N	N	---	151 ⁽²⁾	---	N	N	---	---	---	0
	10/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	10/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
UWBZ03	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
UWBZ04	11/4/2016	N	Y	144 ⁽²⁾	155 ⁽²⁾	11 ⁽¹⁾	N	Y	---	---	---	0
UWBZ05	11/4/2016	N	Y	145 ⁽²⁾	154 ⁽²⁾	9 ⁽¹⁾	N	Y	---	---	---	0
UWBZ06	11/1/2016	N	Y	138 ⁽²⁾	153 ⁽²⁾	15 ⁽¹⁾	N	Y	---	---	---	0
	11/3/2016	N	Y	138 ⁽²⁾	153 ⁽²⁾	15 ⁽¹⁾	Y	Y	NR	148 ⁽²⁾	0.01 ⁽¹⁾	25
UWBZ07	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	7/19/2016	N	Y	---	144 ⁽²⁾	0.4 ⁽¹⁾	N	Y	---	---	---	0

UWBZ09	7/25/2016	N	Y	---	145 ⁽²⁾	0.33 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Y	---	145 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/12/2016	N	Sheen	145 ⁽²⁾	145 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	---	147 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/26/2016	N	Y	---	150 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	---	150 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	---	151 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	---	147 ⁽²⁾	0.13 ⁽¹⁾	N	Y	---	---	---	0
	10/25/2016	N	Y	---	147 ⁽²⁾	1.83 ⁽¹⁾	N	Y	---	---	---	0
	10/31/2016	N	Y	145 ⁽²⁾	147 ⁽²⁾	2 ⁽¹⁾	Y	Y	NR	147 ⁽²⁾	0.01 ⁽¹⁾	5
UWBZ10	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/3/2016	N	Y	143 ⁽³⁾	NM	NM	Y	N	NR	NR	NR	13
	6/23/2016	N	N	---	---	---	N	N	---	---	---	0
	6/29/2016	N	Y	151 ⁽²⁾	151 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/12/2016	N	Y	142 ⁽²⁾	152 ⁽²⁾	10 ⁽¹⁾	N	Y	---	---	---	0
	7/13/2016	N	Y	NR	NR	NR	Y	N	NR	NR	0	18
	7/27/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	148 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	149 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	148 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	149 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	149 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
UWBZ11	7/18/2016	N	Y	142 ⁽²⁾	158 ⁽²⁾	16 ⁽¹⁾	N	Y	---	---	---	0
	7/29/2016	N	Y	144 ⁽²⁾	151 ⁽²⁾	7 ⁽¹⁾	Y	N	NR	148	0	20
	8/3/2016	N	Y	NM	149 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	146 ⁽²⁾	148 ⁽²⁾	2 ⁽¹⁾	N	Y	---	---	---	0
	8/18/2016	N	Y	146 ⁽²⁾	147 ⁽²⁾	1 ⁽¹⁾	Y	Y	147 ⁽²⁾	147 ⁽²⁾	0.01 ⁽¹⁾	10
	8/26/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	Y	NM	148 ⁽²⁾	0.1 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
11/1/2016	N	Y	NM	146 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0	
UWBZ12	7/19/2016	N	Sheen	145 ⁽²⁾	145 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Y	NM	145 ⁽²⁾	0.1 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	Y	NM	146 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/29/2016	N	Sheen	NM	145 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	9/14/2016	N	Y	NM	147 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	10/25/2016	N	Y	NM	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
UWBZ13	7/7/2016	N	Y	NM	NM	<0.02 ⁽¹⁾	N	Y	---	---	---	0
	7/12/2016	N	Y	140 ⁽²⁾	165 ⁽²⁾	25 ⁽¹⁾	N	Y	---	---	---	0
	7/13/2016	N	Y	NR	NR	NR	Y	N	NR	NR	0	40
	7/27/2016	N	Y	NM	148 ⁽²⁾	0.4 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Sheen	NM	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/15/2016	N	Y	---	149 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	---	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	---	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	---	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	---	149 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
10/25/2016	N	Y	---	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0	
UWBZ14	7/7/2016	N	Y	NM	NM	0.02 ⁽¹⁾	N	Y	---	---	---	0
	7/11/2016	N	Y	NM	144 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	7/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/17/2016	N	Y	NM	148 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
10/25/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0	
	7/12/2016	N	Y	140 ⁽²⁾	170 ⁽²⁾	30 ⁽¹⁾	N	Y	---	---	---	0
	7/18/2016	N	Y	140 ⁽²⁾	150 ⁽²⁾	10 ⁽¹⁾	Y	N	NR	147 ⁽²⁾	0	55
	7/27/2016	N	Y	147 ⁽²⁾	152 ⁽²⁾	5 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	149 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	148 ⁽²⁾	0.6 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	146 ⁽²⁾	149 ⁽²⁾	3 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	146 ⁽²⁾	149 ⁽²⁾	3 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 ⁽²⁾	0.17 ⁽¹⁾	N	Y	---	---	---	0

UWBZ15	9/6/2016	N	Y	147 ⁽²⁾	152 ⁽²⁾	5 ⁽¹⁾	N	Y	---	---	---	0
	9/9/2016	N	Y	147 ⁽²⁾	152 ⁽²⁾	5 ⁽¹⁾	Y	Y	---	145 ⁽²⁾	0.4 ⁽²⁾	25
	9/14/2016	N	Y	NM	148 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
	9/20/2016	N	Y	NM	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	9/26/2016	N	Y	NM	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	10/4/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	10/14/2016	N	Y	148 ⁽²⁾	152 ⁽²⁾	4 ⁽¹⁾	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	146 ⁽²⁾	0.67 ⁽¹⁾	N	Y	---	---	---	0
	10/26/2016	N	Y	148	152 ⁽²⁾	4 ⁽¹⁾	Y	Y	NM	149	0.04 ⁽²⁾	10
	11/1/2016	N	Y	NM	148 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
UWBZ16	7/11/2016	N	Y	NM	143 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	7/25/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	Y	NM	146 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	150 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	149 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
UWBZ17	7/25/2016	N	Y	143 ⁽²⁾	150 ⁽²⁾	7 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Y	143 ⁽²⁾	150 ⁽²⁾	7 ⁽¹⁾	Y	N	NR	142 ⁽²⁾	0 ⁽¹⁾	36
	8/10/2016	N	Sheen	150 ⁽²⁾	150 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	146 ⁽²⁾	148 ⁽²⁾	2 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	146 ⁽²⁾	148 ⁽²⁾	2 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	9/6/2016	N	Y	145 ⁽²⁾	149 ⁽²⁾	4 ⁽¹⁾	N	Y	---	---	---	0
	9/9/2016	N	Y	145 ⁽²⁾	149 ⁽²⁾	4 ⁽¹⁾	Y	N	---	145 ⁽²⁾	0.6 ⁽¹⁾	15
	9/14/2016	N	Y	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	9/20/2016	N	Y	NM	146 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	9/26/2016	N	Y	NM	146 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	10/4/2016	N	Y	NM	147 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	147 ⁽²⁾	0.83 ⁽¹⁾	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	147 ⁽²⁾	0.83 ⁽¹⁾	N	Y	---	---	---	0
11/1/2016	N	Y	NM	149 ⁽²⁾	1.33 ⁽¹⁾	N	Y	---	---	---	0	
UWBZ18	6/22/2016	N	Y	NM	NM	3 ⁽¹⁾	N	Y	---	---	---	0
	6/30/2016	N	Y	147 ⁽²⁾	NM	NM	Y	N	NR	NR	0	20
	7/19/2016	N	Y	NM	145 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	145 ⁽²⁾	0.7 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Sheen	145 ⁽²⁾	145 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/12/2016	N	Sheen	145 ⁽²⁾	145 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	145 ⁽²⁾	147 ⁽²⁾	2 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	146 ⁽²⁾	148 ⁽²⁾	2 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	9/6/2016	N	Y	NM	145 ⁽²⁾	0.13 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	148 ⁽²⁾	0.13 ⁽¹⁾	N	Y	---	---	---	0
	9/20/2016	N	Y	146 ⁽²⁾	147 ⁽²⁾	1 ⁽¹⁾	N	Y	---	---	---	0
	9/26/2016	N	Y	146 ⁽²⁾	147.5 ⁽²⁾	1.5 ⁽¹⁾	N	Y	---	---	---	0
	10/4/2016	N	Y	147 ⁽²⁾	148.6 ⁽²⁾	1.6 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	147 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
10/25/2016	N	Y	NM	147 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0	
11/1/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0	
UWBZ19	6/6/2016	N	Y	150 ⁽²⁾	NM	NM	Y	N	NR	NR	0	1
	6/22/2016	N	Y	NM	NM	3 ⁽¹⁾	N	Y	---	---	---	0
	7/11/2016	N	Y	138 ⁽²⁾	164 ⁽²⁾	26 ⁽¹⁾	N	Y	---	---	---	0
	7/12/2016	N	Y	142 ⁽²⁾	162 ⁽²⁾	20 ⁽¹⁾	Y	N	---	144 ⁽²⁾	0	28
	7/25/2016	N	Y	NM	147 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	147 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	147 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/16/2016	N	Y	147 ⁽²⁾	148 ⁽²⁾	1 ⁽¹⁾	N	Y	---	---	---	0
	8/26/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	Y	NM	147 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	10/14/2016	N	Y	---	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	10/25/2016	N	Y	---	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
UWBZ20	11/7/2016	N	Y	141 ⁽²⁾	162 ⁽²⁾	21 ⁽¹⁾	N	Y	---	---	---	0
	5/26/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/14/2016	N	Y	148 ⁽²⁾	NM	NM	Y	N	NR	NR	0	24
	6/23/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/29/2016	N	Y	155 ⁽²⁾	157.5 ⁽²⁾	2.5 ⁽¹⁾	N	Y	---	---	---	0
	7/7/2016	N	Y	NM	NM	0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/29/2016	N	Y	146 ⁽²⁾	152 ⁽²⁾	6 ⁽¹⁾	Y	N	NR	148 ⁽²⁾	0.1 ⁽¹⁾	20
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/10/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0

UWBZ21	8/15/2016	N	Y	NM	147 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	147 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	9/14/2016	N	Y	NM	147 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	10/25/2016	N	Y	NM	147 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
UWBZ22	5/19/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/8/2016	N	Y	149 ⁽²⁾	NM	NM	Y	N	NR	NR	0	1
	6/29/2016	N	Y	147.5 ⁽²⁾	147 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	7/7/2016	N	Y	NM	NM	0.02 ⁽¹⁾	N	Y	---	---	---	0
	7/12/2016	N	Y	NM	146 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	7/28/2016	N	Y	NM	150 ⁽²⁾	0.4 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	150 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	149 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	147 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/29/2016	N	Y	NM	147 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	Y	NM	148 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0
11/1/2016	N	Y	NM	148 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0	
UWBZ23	5/18/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/9/2016	N	Y	148 ⁽²⁾	NM	NM	Y	N	NR	NR	0	35
	6/29/2016	N	Y	153 ⁽²⁾	154.5 ⁽²⁾	1.5 ⁽¹⁾	N	Y	---	---	---	0
	7/11/2016	N	Y	142 ⁽²⁾	148 ⁽²⁾	6 ⁽¹⁾	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	149 ⁽²⁾	0.8 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Y	NM	149 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	146 ⁽²⁾	149 ⁽²⁾	3 ⁽¹⁾	N	Y	---	---	---	0
	8/22/2016	N	Y	146 ⁽²⁾	149 ⁽²⁾	3 ⁽¹⁾	Y	N	---	148 ⁽²⁾	0	15
	8/26/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/14/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
10/14/2016	N	Y	---	149 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0	
10/25/2016	N	Y	---	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0	
UWBZ24	11/7/2016	N	Y	146 ⁽²⁾	155 ⁽²⁾	9 ⁽¹⁾	Y	Y	NR	148 ⁽²⁾	0.01	36
UWBZ25	7/19/2016	N	Sheen	145 ⁽²⁾	145 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
11/1/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0	
UWBZ26	6/29/2016	N	Y	141.5 ⁽²⁾	170 ⁽²⁾	28.5 ⁽¹⁾	N	Y	---	---	---	0
	7/5/2016	Y	Y	140.4	167.1	26.61	Y	Y	142.2	162.9	20.7	10
	7/6/2016	Y	Y	142	163	20.99	Y	Y	147.3	147.8	0.45	40
	7/12/2016	N	Y	NM	142 ⁽²⁾	0.17 ⁽¹⁾	N	Y	---	---	---	0
	7/28/2016	N	Y	147 ⁽²⁾	148 ⁽²⁾	1 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Y	147 ⁽²⁾	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/12/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/16/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/26/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	Y	---	148 ⁽²⁾	0.1 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	Y	---	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
11/1/2016	N	Y	---	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0	
UWBZ27	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/8/2016	N	Y	143 ⁽²⁾	NM	NM	Y	N	NR	NR	NR	32
	6/29/2016	N	Y	148 ⁽²⁾	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	7/12/2016	N	N	---	143 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	Sheen	---	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
11/1/2016	N	Y	NM	148 ⁽²⁾	0.01 ⁽¹⁾	N	N	---	---	---	0	
UWBZ28/ LSZ51*	7/20/2016	N	N	NM	NM	---	N	N	---	---	---	0
	11/4/2016 ⁽⁷⁾	N	Sheen	NM	146 ⁽²⁾	Sheen	N	N	---	---	---	0
UWBZ29	7/20/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	11/1/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	7/20/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0

UWBZ31	10/3/2016	N	Y	---	146 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	11/1/2016	N	Y	---	146 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
UWBZ32/ LSZ47*	7/20/2016	N	N	NM	NM	---	N	N	---	---	---	0
	8/23/2016 ⁽⁶⁾	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	10/7/2016 ⁽⁶⁾	Y	N	---	145.4 ⁽²⁾	---	N	N	---	---	---	0
	11/3/2016 ⁽⁷⁾	Y	Y	145.39	147.5 ⁽²⁾	2.11	N	Y	---	---	---	0
UWBZ33/ LSZ48*	7/12/2016 ⁽⁵⁾	Y	Y	144.90	146.55	1.65	Y	Y	145.2	145.4	0.13	2
	7/25/2016 ⁽⁵⁾	N	Sheen	NM	NM	Sheen	Y	Sheen	---	---	---	0
	7/25/2016 ⁽⁵⁾	N	Sheen	NM	NM	Sheen	Y	Sheen	---	---	---	0
	11/3/2016 ⁽⁷⁾	Y	Sheen	NM	144.60	Sheen	Y	Sheen	---	---	---	0
UWBZ34	7/20/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	144.49	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	144.55	---	N	N	---	---	---	0
	8/19/2016	Y	N	---	144.42	---	N	N	---	---	---	0
	9/2/2016	Y	N	---	144.38	---	N	N	---	---	---	0
	10/7/2016	Y	N	---	144.26	---	N	N	---	---	---	0
UWBZ36	7/15/2016	Y	N	---	144.31	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	144.07	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	144.21	---	N	N	---	---	---	0
	9/2/2016	Y	N	---	144.02	---	N	N	---	---	---	0
	10/7/2016	Y	N	---	143.85	---	N	N	---	---	---	0
LSZ01	11/2/2016	N	Y	NM	NM	15	N	Y	---	---	---	0
LSZ03	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
LSZ04	11/4/2016	N	Y	NM	146 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
LSZ05	11/4/2016	N	Y	145 ⁽²⁾	154 ⁽²⁾	9 ⁽¹⁾	N	Y	---	---	---	0
LSZ06	10/31/2016	N	Y	134 ⁽²⁾	154 ⁽²⁾	20 ⁽¹⁾	Y	Y	NR	147 ⁽²⁾	0.01 ⁽¹⁾	70
LSZ07	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
LSZ08	11/4/2016	Y	Y	144.66	161.10	16.44	N	Y	---	---	---	0
LSZ09	5/26/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/29/2016	N	Y	152 ⁽²⁾	152 ⁽²⁾	<0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/7/2016	N	Y	NM	NM	<0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/12/2016	N	Sheen	144 ⁽²⁾	144 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/27/2016	N	Y	NM	149 ⁽²⁾	0.1 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	148 ⁽²⁾	0.1 ⁽¹⁾	N	Y	---	---	---	0
	8/12/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	NM	149 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	149 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0	
LSZ10	7/12/2016	N	N	---	142 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
LSZ11	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/1/2016	N	Y	NM	NM	NM	Y	N	NR	NR	0	10 ⁽⁴⁾
	6/29/2016	N	N	---	147	---	N	N	---	---	---	0
	7/7/2016	N	Y	NM	NM	<0.02 ⁽¹⁾	N	Y	---	---	---	0
	7/11/2016	N	Y	NM	145 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/28/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
LSZ12	5/19/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/14/2016	N	Y	NM	NM	NM	Y	N	NR	NR	0	50
	6/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/29/2016	N	Y	148 ⁽²⁾	158 ⁽²⁾	10 ⁽¹⁾	Y	Y	NR	NR	<0.08	25
	7/12/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	Y	---	148 ⁽²⁾	0.2	N	Y	---	---	---	0
	8/2/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	NM	150 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/26/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	Y	NM	149 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	10/14/2016	N	Y	NM	149 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0

LSZ12	10/26/2016	N	Y	NM	149 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
LSZ13	11/1/2016	N	Y	142 ⁽²⁾	151 ⁽²⁾	9 ⁽¹⁾	N	Y	---	---	---	0
LSZ14	5/18/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/13/2016	N	Y	144 ⁽²⁾	NM	NM	Y	N	NR	NR	0	26
	6/29/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	7/7/2016	N	Y	146 ⁽²⁾	165 ⁽²⁾	21 ⁽¹⁾	N	Y	148 ⁽²⁾	NR	NR	35
	7/25/2016	N	Y	NM	147 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	149 ⁽²⁾	0.58 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	149 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	149 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	9/6/2016	N	Y	NM	150 ⁽²⁾	0.33 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	149 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	9/20/2016	N	Y	NM	148 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	9/26/2016	N	Y	NM	148 ⁽²⁾	0.7 ⁽¹⁾	N	Y	---	---	---	0
	10/4/2016	N	Y	NM	149 ⁽²⁾	0.17 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	149 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
10/25/2016	N	Y	NM	148 ⁽²⁾	0.75 ⁽¹⁾	N	Y	---	---	---	0	
11/1/2016	N	Y	NM	150 ⁽²⁾	0.25 ⁽¹⁾	N	Y	---	---	---	0	
LSZ15	7/12/2016	N	Y	135 ⁽²⁾	NM	>35 ⁽¹⁾	N	Y	---	---	---	0
	7/14/2016	N	Y	144 ⁽²⁾	159 ⁽²⁾	15 ⁽¹⁾	Y	N	NR	147 ⁽²⁾	Sheen	100
	7/25/2016	N	Y	NM	147 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Sheen	147 ⁽²⁾	147 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Sheen	147 ⁽²⁾	147 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Sheen	147 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	9/14/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
LSZ16	11/1/2016	N	Y	138 ⁽²⁾	149 ⁽²⁾	11 ⁽¹⁾	N	Y	---	---	---	0
LSZ17	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/2/2016	N	Y	130 ⁽²⁾	NM	NM	Y	N	NR	NR	0	50 ⁽⁴⁾
	6/23/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/29/2016	N	Y	150 ⁽²⁾	150 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/12/2016	N	Y	NM	145 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/27/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	148 ⁽²⁾	0.13 ⁽¹⁾	N	Y	---	---	---	0
10/26/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0	
LSZ18	7/18/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
LSZ19	7/7/2016	N	Y	NM	NM	0.02 ⁽¹⁾	N	Y	---	---	---	0
	7/12/2016	N	Y	NM	144 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	7/27/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	148 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Y	---	---	---	0
	8/16/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/29/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	147 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	149 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
10/26/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0	
LSZ20	7/7/2016	N	Sheen	---	NM	---	N	Y	---	---	---	0
	7/11/2016	N	Sheen	142 ⁽²⁾	142 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	Y	NM	149 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	9/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	10/26/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	7/19/2016	N	Sheen	NM	144 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	NM	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0

LSZ21	8/3/2016	N	Sheen	NM	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/16/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	Sheen	NM	146 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
LSZ22	7/25/2016	N	Sheen	NM	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/3/2016	N	Sheen	NM	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/12/2016	N	Sheen	NM	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
LSZ23	5/26/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/20/2016	N	N	---	151 ⁽²⁾	---	N	N	---	---	---	0
	6/29/2016	N	N	---	152 ⁽²⁾	---	N	N	---	---	---	0
	7/7/2016	N	N	---	NM	---	N	N	---	---	---	0
	7/12/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
LSZ24	7/12/2016	N	N	---	142 ⁽²⁾	---	N	N	---	---	---	0
	7/20/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	8/12/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/25/2016	N	N	NM	147 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
LSZ25	7/11/2016	N	Sheen	143 ⁽²⁾	143 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/25/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
LSZ26	5/16/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	6/29/2016	N	N	---	153 ⁽²⁾	---	N	N	---	---	---	0
	7/11/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0	
LSZ27	7/7/2016	N	N	---	---	---	N	N	---	---	---	0
	7/12/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	7/27/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/3/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
9/29/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0	
LSZ28	5/24/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/3/2016	N	Y	146	NM	NM	Y	N	NR	NR	0	5
	6/23/2016	N	N	---	NM	---	N	N	---	---	---	0
	6/29/2016	N	N	---	151 ⁽²⁾	---	N	N	---	---	---	0
	7/12/2016	N	Sheen	145 ⁽²⁾	145 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	7/27/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
LSZ29	5/18/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/6/2016	N	Y	142 ⁽²⁾	NM	NM	Y	Y	NR	NR	NR	3
	6/29/2016	N	Y	152 ⁽²⁾	152 ⁽²⁾	<0.01 ⁽¹⁾	N	Y	NR	NR	<0.01	0
	7/20/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/23/2016	N	Y	NM	149 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Sheen	149 ⁽²⁾	149 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
LSZ30	11/4/2016	N	Y	144 ⁽²⁾	156 ⁽²⁾	12 ⁽¹⁾	N	Y	---	---	---	0
	6/6/2016	N	Y	151 ⁽²⁾	NM	NM	Y	N	NR	NR	0	20
	7/25/2016	N	Y	NM	145 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Sheen	145 ⁽²⁾	145 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/23/2016	N	Y	NM	146 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0

LSZ31	9/29/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
LSZ32	7/25/2016	N	Y	144.8 ⁽²⁾	145 ⁽²⁾	1.2 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Y	NM ⁽²⁾	147 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/12/2016	N	Y	NM ⁽²⁾	147 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	146 ⁽²⁾	0.1 ⁽¹⁾	N	Y	---	---	---	0
	9/29/2016	N	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
LSZ33	11/7/2016	Y	Y	142.22	170 ⁽⁸⁾	>27.8 ⁽¹⁾	N	Y	---	---	---	0
	11/8/2016	Y	Y	142.22	170 ⁽⁸⁾	>27.8 ⁽¹⁾	Y	Y	149.4	149.81	0.41	65
LSZ34	5/17/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/14/2016	N	Y	148 ⁽²⁾	NM	NM	Y	N	NR	NR	0	38
	6/29/2016	N	Y	152 ⁽²⁾	152 ⁽²⁾	<0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/11/2016	N	Y	NM	145 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/25/2016	N	Y	NM	149 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/10/2016	N	Sheen	148 ⁽²⁾	148 ⁽²⁾	Sheen	N	Sheen	---	---	---	0
	8/15/2016	N	Y	NM ⁽²⁾	149 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/26/2016	N	Y	NM ⁽²⁾	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM ⁽²⁾	148 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM ⁽²⁾	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
10/25/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0	
LSZ35	6/29/2016	N	Y	147 ⁽²⁾	NM	NM	Y	N	NR	NR	0	65
	7/12/2016	N	Y	140 ⁽²⁾	168 ⁽²⁾	28 ⁽¹⁾	N	Y	---	---	---	0
	7/18/2016	N	Y	143 ⁽²⁾	149 ⁽²⁾	6 ⁽¹⁾	Y	N	NR	146 ⁽²⁾	Sheen	35
	7/25/2016	N	Y	NM	149 ⁽²⁾	0.2 ⁽¹⁾	N	Y	---	---	---	0
	8/3/2016	N	Y	NM	150 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	149 ⁽²⁾	0.06 ⁽¹⁾	N	Y	---	---	---	0
	8/16/2016	N	Y	146 ⁽²⁾	149 ⁽²⁾	3 ⁽¹⁾	N	Y	---	---	---	0
	8/22/2016	N	Y	146 ⁽²⁾	149 ⁽²⁾	3 ⁽¹⁾	Y	N	---	149 ⁽²⁾	0	10
	8/23/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	Y	NM	149 ⁽²⁾	0.06 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
	10/14/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
10/25/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0	
LSZ36	5/19/2016	N	Y	NM	NM	NM	N	Y	---	---	---	0
	6/10/2016	N	Y	144 ⁽²⁾	NM	NM	Y	N	NR	NR	0	86
	6/29/2016	N	Y	152 ⁽²⁾	152 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	7/7/2016	N	Y	NM	NM	0.06 ⁽¹⁾	N	Y	---	---	---	0
	7/11/2016	N	Y	NM	145 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	8/2/2016	N	Y	NM	145 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	145 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	146 ⁽²⁾	0.01 ⁽¹⁾	N	Y	---	---	---	0
	8/26/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	Y	NM	148 ⁽²⁾	0.17 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	10/14/2016	N	N	148 ⁽²⁾	151 ⁽²⁾	3 ⁽¹⁾	N	Y	---	---	---	0
	10/16/2016	N	N	148 ⁽²⁾	151 ⁽²⁾	3 ⁽¹⁾	N	Y	---	---	---	0
	10/21/2016	N	Y	148 ⁽²⁾	151 ⁽²⁾	3 ⁽¹⁾	Y	Y	NM	150	Sheen	9
10/25/2016	N	Sheen	NM	150 ⁽²⁾	Sheen	N	Sheen	---	---	---	0	
LSZ37	5/23/2016	Y	Y	138.40	185.80	47.40	N	Y	---	---	---	0
	5/24/2016	Y	Y	NR	NR	NR	Y	Y	145.1	161.7	16.56	60
	5/25/2016	Y	Y	NR	NR	NR	Y	Y	148.6	149.6	1.05	25
	5/25/2016	Y	Y	148.45	149.51	1.06	N	Y	---	---	---	0
	5/26/2016	Y	Y	148.46	149.5	1.04	N	Y	---	---	---	0
	5/26/2016	Y	Y	148.42	149.54	1.12	N	Y	---	---	---	0
	5/27/2016	Y	Y	148.31	149.5	1.19	N	Y	---	---	---	0
	5/31/2016	Y	Y	148.31	149.49	1.18	N	N	---	---	---	0
	6/2/2016	Y	Y	NR	NR	NR	Y	Y	149.12	150.11	0.99	17
	6/3/2016	Y	Y	148.66	148.7	0.04	N	Y	---	---	---	0
	7/1/2016	Y	N	---	148.58	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	148.45	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	148.29	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.45	---	N	N	---	---	---	0
	9/2/2016	Y	Y	148.11	148.16	0.05	N	Y	---	---	---	0
10/7/2016	Y	Y	147.86	147.92	0.06	N	Y	---	---	---	0	
LSZ38	5/23/2016	Y	Y	145.33	156.19	10.86	N	Y	---	---	---	0
	5/24/2016	Y	Y	NR	NR	NR	Y	Y	148.5	149.58	1.08	15
	5/25/2016	Y	Y	148.55	149.7	1.15	N	Y	---	---	---	0
	5/25/2016	Y	Y	148.47	149.66	1.19	N	Y	---	---	---	0
	5/26/2016	Y	Y	148.51	149.76	1.25	N	Y	---	---	---	0
	5/26/2016	Y	Y	148.42	149.61	1.19	N	Y	---	---	---	0
	5/27/2016	Y	Y	148.34	149.58	1.24	N	Y	---	---	---	0
	5/31/2016	Y	Y	148.33	149.61	1.28	N	Y	---	---	---	0
	6/3/2016	Y	Y	148.41	149.62	1.21	N	Y	---	---	---	0
	7/1/2016	Y	N	---	148.33	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	148.22	---	N	N	---	---	---	0
7/29/2016	Y	N	---	148.02	---	N	N	---	---	---	0	

	8/5/2016	Y	N	---	148.65	---	N	N	---	---	---	0
	9/2/2016	Y	Y	147.87	149.07	1.20	N	Y	---	---	---	0
	10/7/2016	Y	Y	147.62	148.81	1.19	N	Y	---	---	---	0
LSZ39	5/19/2016	Y	Y	NR	NR	NR	N	Y	---	---	---	0
	5/23/2016	Y	Y	135.78	191.02	55.24	N	Y	---	---	---	0
	5/26/2016	Y	Y	135.91	191.2	55.29	N	Y	---	---	---	0
	6/1/2016	Y	Y	135.85	190.8	54.95	Y	Y	150.16	152.45	2.29	80
	6/1/2016	Y	Y	148.49	150.82	2.33	N	Y	---	---	---	0
	6/1/2016	Y	Y	148.71	151.09	2.38	N	Y	---	---	---	0
	6/3/2016	Y	Y	148.71	151.11	2.40	N	Y	---	---	---	0
	7/1/2016	Y	N	---	149.18	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	149.05	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	148.81	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.83	---	N	N	---	---	---	0
	9/2/2016	Y	Y	148.71	148.83	0.07	N	N	---	---	---	0
	10/7/2016	Y	N	---	148.50	---	N	N	---	---	---	0
LSZ40	11/8/2016	N	Y	132 ⁽²⁾	166 ⁽²⁾	34 ⁽¹⁾	Y	Y	NM	147 ⁽²⁾	0.08 ⁽¹⁾	95
LSZ41	7/20/2016	N	N	---	147 ⁽²⁾	---	N	N	---	---	---	0
	7/28/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	150 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	148 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	149 ⁽²⁾	---	N	N	---	---	---	0
LSZ42	7/19/2016	N	Y	143 ⁽²⁾	151 ⁽²⁾	8 ⁽¹⁾	N	Y	---	---	---	0
	7/29/2016	N	Y	143 ⁽²⁾	149 ⁽²⁾	6 ⁽¹⁾	Y	Y	NR	148 ⁽²⁾	0.5 ⁽¹⁾	36
	8/3/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/10/2016	N	Y	NM	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	8/15/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	8/23/2016	N	Y	NM	147 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	8/30/2016	N	Y	NM	148 ⁽²⁾	0.02 ⁽¹⁾	N	Y	---	---	---	0
	9/6/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	9/14/2016	N	Y	NM	147 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
	9/20/2016	N	Y	NM	147 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	9/26/2016	N	Y	NM	147 ⁽²⁾	0.5 ⁽¹⁾	N	Y	---	---	---	0
	10/4/2016	N	Y	NM	148 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0
	10/14/2016	N	Y	NM	148 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0
10/25/2016	N	Y	NM	146 ⁽²⁾	0.08 ⁽¹⁾	N	Y	---	---	---	0	
11/1/2016	N	Y	NM	146 ⁽²⁾	0.04 ⁽¹⁾	N	Y	---	---	---	0	
LSZ43*	7/20/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	7/25/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	8/2/2016	N	N	---	145 ⁽²⁾	---	N	N	---	---	---	0
	8/16/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	8/30/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
	9/29/2016	N	N	---	146 ⁽²⁾	---	N	N	---	---	---	0
LSZ44*	7/8/2016	Y	N	---	144.70	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	150.33	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	150.12	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	150.15	---	N	N	---	---	---	0
	9/2/2016	Y	N	---	150.14	---	N	N	---	---	---	0
	10/7/2016	Y	N	---	149.70	---	N	N	---	---	---	0
LSZ45*	6/27/2016	Y	N	---	151.61	---	N	N	---	---	---	0
	7/8/2016	Y	N	---	148.94	---	N	N	---	---	---	0
	7/11/2016	Y	N	---	145.00	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	148.89	---	N	N	---	---	---	0
	7/22/2016	Y	N	---	148.65	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.73	---	N	N	---	---	---	0
	9/2/2016	Y	N	---	148.46	---	N	N	---	---	---	0
	10/7/2016	Y	N	---	148.27	---	N	N	---	---	---	0
LSZ46*	6/27/2016	Y	N	---	148.05	---	N	N	---	---	---	0
	7/8/2016	Y	N	---	147.95	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	147.87	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	147.71	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	147.73	---	N	N	---	---	---	0
	9/2/2016	Y	Y	147.47	147.48	0.01	N	Y	---	---	---	0
	10/7/2016	Y	N	---	147.27	---	N	N	---	---	---	0
LSZ49*	6/14/2016	Y	N	---	145.67	---	N	N	---	---	---	0
	7/8/2016	Y	N	---	145.93	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	145.85	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	145.74	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	145.69	---	N	N	---	---	---	0
	9/2/2016	Y	Y	145.50	145.51	0.01	N	Y	---	---	---	0
	9/30/2016	Y	N	---	145.37	---	N	N	---	---	---	0
	6/14/2016	Y	N	---	145.26	---	N	N	---	---	---	0
	7/8/2016	Y	N	---	144.70	---	N	N	---	---	---	0
	7/15/2016	Y	N	144.60	146.82	2.22	N	Y	---	---	---	0
	7/29/2016	Y	N	144.48	146.69	2.21	N	Y	---	---	---	0
	8/5/2016	Y	N	---	144.42	---	N	N	---	---	---	0
	8/12/2016	Y	Y	144.42	146.62	2.20	N	Y	---	---	---	0
	8/19/2016	Y	Y	144.46	146.56	2.10	N	Y	---	---	---	0

LSZ50*	8/26/2016	Y	N	---	144.36	---	N	N	---	---	---	0
	9/2/2016	Y	Y	144.20	146.44	2.24	Y	N	---	147.00	0.00	5
	9/9/2016	Y	Y	144.78	144.81	0.03	N	Y	---	---	---	0
	9/23/2016	Y	Y	144.60	144.68	0.08	N	Y	---	---	---	0
	9/30/2016	Y	N	---	144.55	---	N	N	---	---	---	0
	10/7/2016	Y	Y	144.57	144.62	0.05	N	Y	---	---	---	0
	10/21/2016	Y	Y	144.49	144.54	0.05	N	Y	---	---	---	0
	10/28/2016	Y	Y	144.21	144.27	0.06	N	Y	---	---	---	0
LSZ52*	7/8/2016	Y	N	---	149.00	---	N	N	---	---	---	0
	7/15/2016	Y	N	---	148.89	---	N	N	---	---	---	0
	7/29/2016	Y	N	---	148.71	---	N	N	---	---	---	0
	8/5/2016	Y	N	---	148.74	---	N	N	---	---	---	0
	9/2/2016	Y	N	---	148.50	---	N	N	---	---	---	0
	10/7/2016	Y	N	---	148.26	---	N	N	---	---	---	0

NM = Not measured due to temperature interference.

NR = Not recorded.

--- = No NAPL present. Measurement not performed.

* = Newly installed well.

Notes:

(1) LNAPL estimated using PTFE bailer, not interface probe.

(2) Depth measured using a bailer.

(3) Depth measured using a tagline.

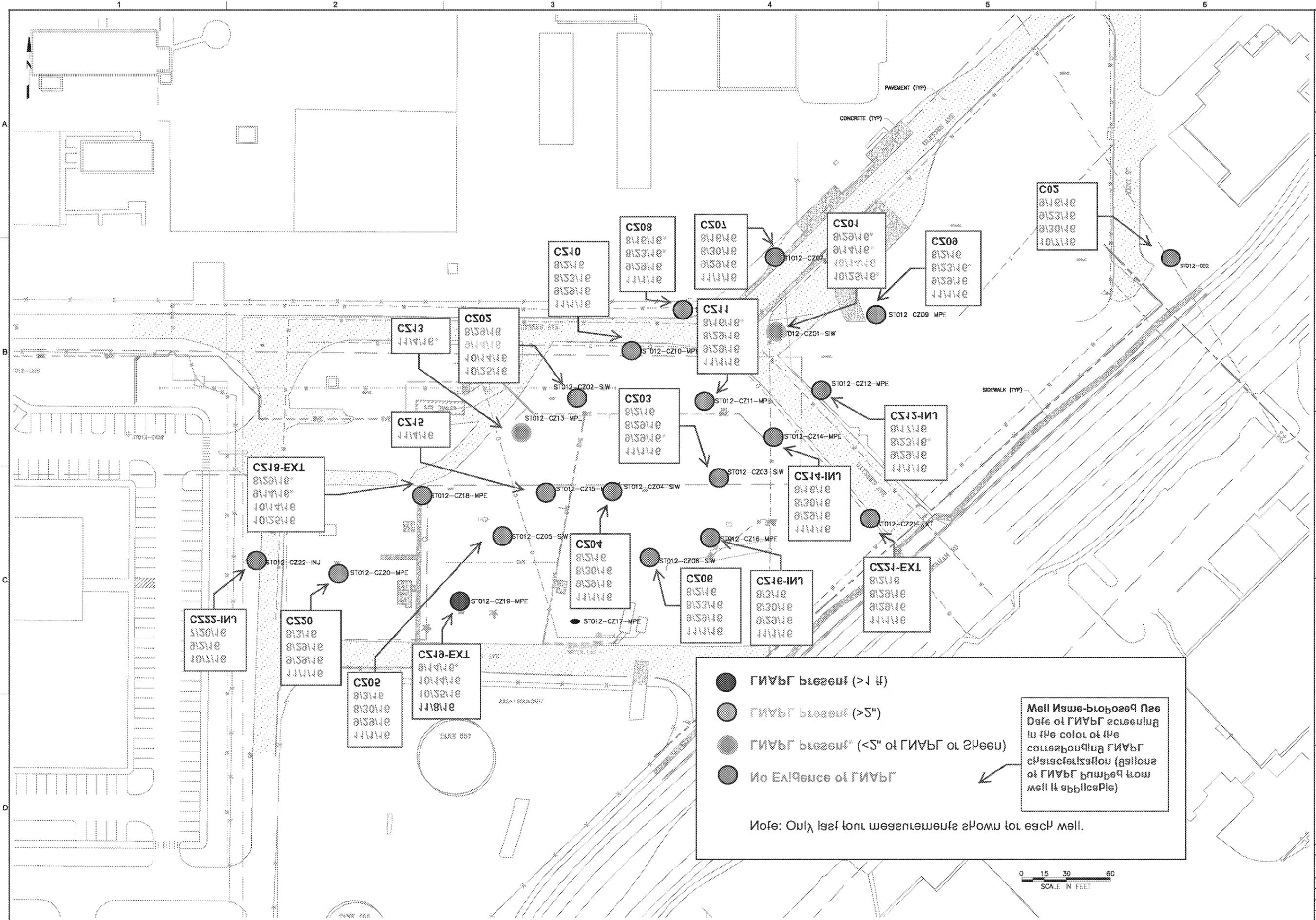
(4) LNAPL recovered included water.

(5) Dual screened well location monitored for LNAPL in the upper interval only.

(6) Dual screened well location monitored for LNAPL in the lower interval only.

(7) Dual screened well location was monitored after packer were pulled from well.

(8) Depth to water couldn't be determined via interface probe due to water temperatures exceeding probe limits at the depth recorded.



NO.	DATE	DR	REVISION	CHK	BY	APVD

REMEDIAL DESIGN REMEDIAL ACTION
WORK PLAN
ST012-FORMER WILLIAMS AIR FORCE BASE
MESA, ARIZONA

DRAWING STATUS
CONSTRUCTION REF DRAWINGS



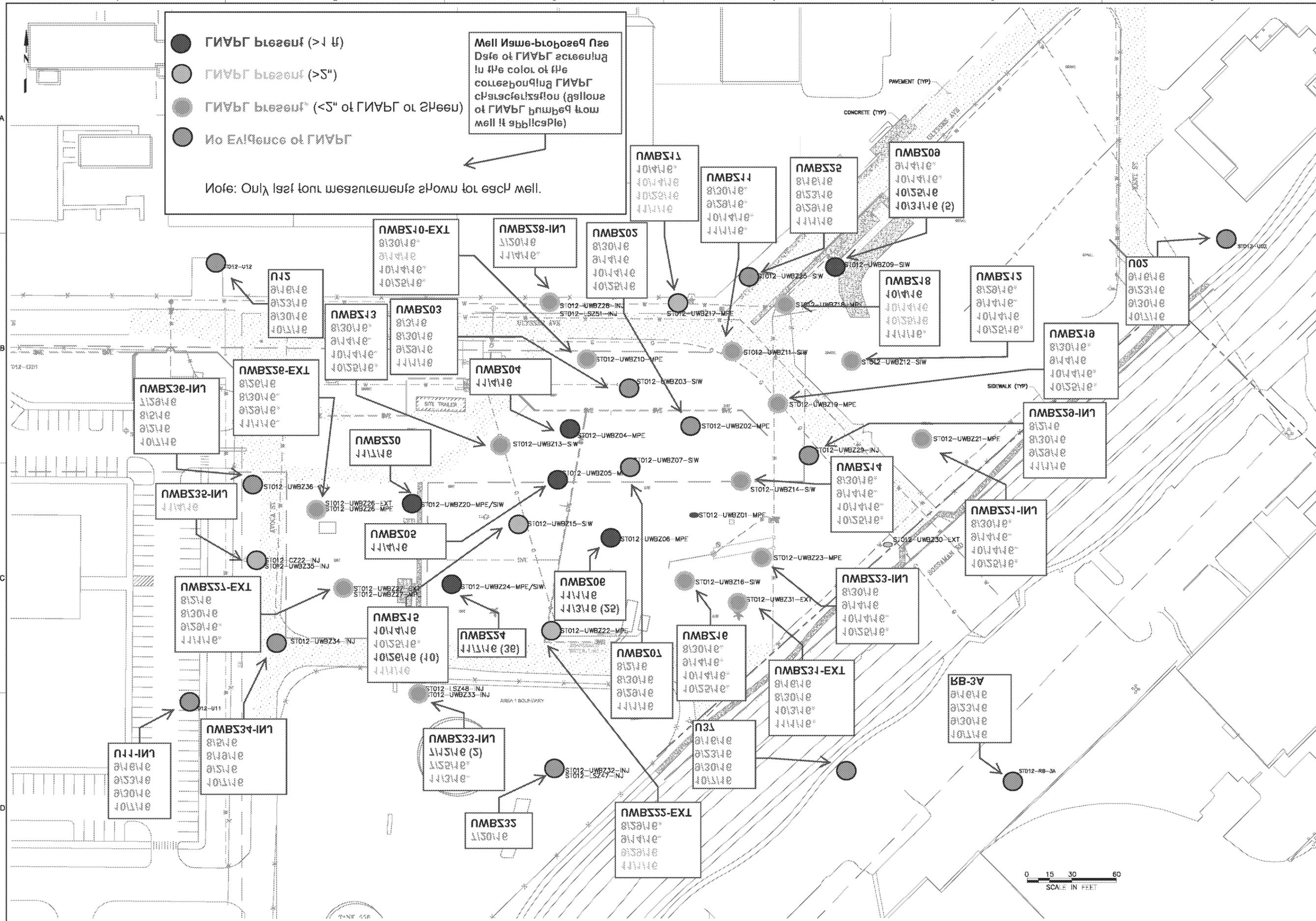
VERIFY SCALE	
BAR IS ONE INCH ON ORIGINAL DRAWING.	
DATE	
PROJ	9101-11-0001
DWG	
SHEET	OF 15

THIS DRAWING IS THE PROPERTY OF AMEC FOSTER WHEELER, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC FOSTER WHEELER.

● ΓΙΛΥΓ βίεζευτ (>1 ft)
 ● ΓΙΛΥΓ βίεζευτ (>5")
 ● ΓΙΛΥΓ βίεζευτ (<5" of ΓΙΛΥΓ of 2μευτ)
 ● No Evidence of ΓΙΛΥΓ

Note: Only list total measurements shown for each well.

Well Name-Location Name
 Date of ΓΙΛΥΓ screening
 in the color of the
 corresponding ΓΙΛΥΓ
 characteristics (yellow
 of ΓΙΛΥΓ depth low
 well is applicable)



NO.	DATE	DR	REVISION	CHK	BY	APVD

REMEDIAL DESIGN REMEDIAL ACTION
 WORK PLAN
 ST012-FORMER WILLIAMS AIR FORCE BASE
 MESA, ARIZONA

DRAWING STATUS
 CONSTRUCTION REF DRAWINGS



VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.

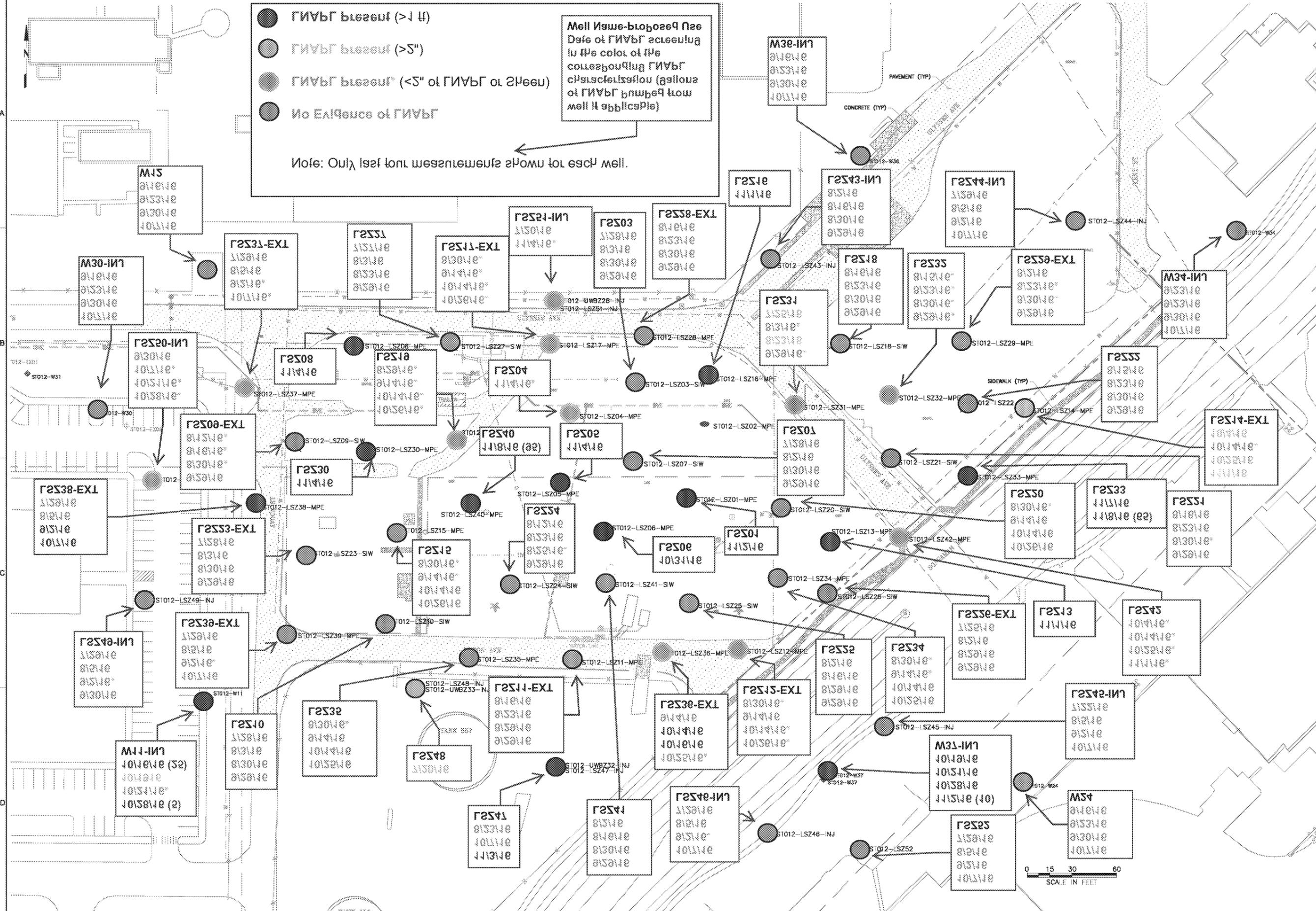
DATE	
PROJ	9101-11-0001
DWG	
SHEET	OF 15

THIS DRAWING IS THE PROPERTY OF AMEC FOSTER WHEELER, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE OR TRANSMIT THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC FOSTER WHEELER.

● ГИВБГ Presence (>1 ft)
 ● ГИВБГ Presence (>5")
 ● ГИВБГ Presence (<5" of ГИВБГ or 2ft) or 2ft
 ● No Evidence of ГИВБГ

Note: Only last four measurements are shown for each well.

Well Name-Location Use
 Date of ГИВБГ presence
 in the color of the
 corresponding ГИВБГ
 concentration (all
 ГИВБГ are low
 well locations)



REMEDIAL DESIGN/REMEDIAL ACTION WORK PLAN	NO.	DATE	DR	REVISION	CHK	BY	APVD
ST012-FORMER WILLIAMS AIR FORCE BASE MESA, ARIZONA							

DRAWING STATUS: CONSTRUCTION REF DRAWINGS

REMEDIAL DESIGN/REMEDIAL ACTION WORK PLAN

ST012-FORMER WILLIAMS AIR FORCE BASE MESA, ARIZONA

amec foster wheeler
 Environment & Infrastructure, Inc.
 511 Congress Street, Suite 200
 Portland, ME 04112
 (207) 775-5401

VERIFY SCALE
 BAR IS ONE INCH ON ORIGINAL DRAWING.

DATE: _____
 PROJ: 9101-11-0001
 DWG: _____
 SHEET: _____ OF 15



Project Name: STO 12

Project Number: _____

Date: 11/8/16

Boring ID: LSZ-57

Boring Location: <u>LSZ-57</u>	Logged By: <u>T. Rasmussen</u>
Elevation and Datum: _____	Project Manager: _____
Start Date: <u>11/8/16</u>	Drilling Contractor: _____
Completion Date: <u>11/9/16</u>	Drill Rig Type: _____
Total Depth Drilled: _____	Casing Size: _____
Depth to Water: _____	Soil Sampling Method: _____

Depth Below Ground Surface (feet)	Sample ID	PID (ppm)	LNAP Test (Red/Pink/None)	USCS	Soil Classification, Description and Notes	
					USCS Name	
0					potholed to 10'	
1						
2						
3						
4						
5						
6						
7						
8						
9						
10		0.3		SM	WELL GRADED SAND w/ GRAVEL: subrounded sand, m-c sand, f. gravel, red-brown, no odor, NC, NP, sl. moist. 20% g, 60% sp, 20% silt	
11					Note: gradation change with coarsening gravel w/ depth to m. grained gravel 3. rounded	
12		0.7		SM		SILTY SAND w/ GRAVEL (25%) sand 65, silt 30
13		0.6				
14					Note: 21.5-22' m-c sand lense, gray-tan, no odor, NP, NC.	
15		0.0				
16						
17					SAND becomes f. grained, dark brown to sand 40 silt: No PE, NC, no odor, sl. moist	
18		0.0		ML		
19						
20						
21						
22						
23						
24						
25						

Project Name: STO 12

Page 2 of 10



Project Number: _____

Boring ID: 152-57

Date: 11/8/16

Boring Location:	Logged By:
Elevation and Datum:	Project Manager:
Start Date:	Drilling Contractor:
Completion Date:	Drill Rig Type:
Total Depth Drilled:	Casing Size:
Depth to Water:	Soil Sampling Method:

Depth Below Ground Surface (feet)	Sample ID	PID (ppm)	LNAP Test (Red/Pink/None)	USCS	Soil Classification, Description and Notes USCS Name Soil description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, odor, staining. Include additional descriptive information in the soil description or notes.
25.8		0.4		MH	SANDY SILT (cont.) weak CaCO ₃ cement @ base of MH
		2.0			SILTY SAND: 20% silt; 80% sand f.c. sand, s-rounded, red-brown, < 2% f. grained gravel, well graded, NC, NP no odor, dry to sl. moist v.o.s zone w/ greater sand (SW-SM)
30.5		4.3			
		0.0		SM-MH	becomes more f. grained, no gravel, dark brown, becomes med-well consol. lt tan to brown
		0.5			
35.20		0.0		MH	predom. f. grained lt tan sandy silt: dark brown, med. to weak consol.
		6.9			45 silt 55 sand, f. grained sand, NP, NC, no odor, moist
40.35		5.3			Note: @ 37' becomes med. weak consol. (med-well consol.)
		16.7			Note: 40' - 41' unconsolidated, no odor
		4.1		MH	becomes more sandy: 60 sand, 40 silt, predom. s. 16" well consol. zone
45.20		4.3			
		5.7			becomes well consol., CaCO ₃ cement. nodules between 47' to 51'
		6.8			
49.25					



Project Name: S10 12
 Project Number: _____
 Date: 11/8/16

Boring ID: LS2-57

Boring Location:	Logged By:
Elevation and Datum:	Project Manager:
Start Date:	Drilling Contractor:
Completion Date:	Drill Rig Type::
Total Depth Drilled:	Casing Size:
Depth to Water:	Soil Sampling Method:

Depth (feet)	Sample ID	PID (ppm)	LNAP Test (Red/ Pink/ None)	USCS	Soil Classification, Description and Notes USCS Name
5				MH	Sandy silt (cont) CaCO ₃ zone to 51'
8		13.2		MH	Sandy silt: pred. fines, 60% silt 40% sand mod. to well consol., NP, NC, no odor, dark brown @ 53' becomes weakly consol.
9		9.7			@ 55' mod. consol.
10		10.1			- occasional m. gravel, sub-rounded gravel
11		2.4			6" CaCO ₃ zone (weak to mod. cont) @ 57.5' becomes mod to well consol. w/ CaCO ₃ nodules
12		10.3		SM	silty sand: ^{well graded} m-c sand (70%) silt (30%), CaCO ₃ cont, m-w cont., no odor, no PI # m-well consol., moist
14		14.2			6" gravel lense
17		17.0			
18		1.2			lense CaCO ₃ becomes poorly consol.
20		4.8			
25		3.5			6" gravel lense
30		8.5		MH	Sandy silt: pred. f. gravel, mod-well consol., weak CaCO ₃ cont, No PI, no odor, brown
33		9.5			73'-74' high CaCO ₃ ^{single} cont, well consol.
35		7.4			

Project Name: 910 R2

Page 4 of 10



Project Number: _____

Boring ID: LS2-57

Date: 11/8/16

Boring Location:	Logged By:
Elevation and Datum:	Project Manager:
Start Date:	Drilling Contractor:
Completion Date:	Drill Rig Type::
Total Depth Drilled:	Casing Size:
Depth to Water:	Soil Sampling Method:

Depth Below Ground Surface (feet)	Sample ID	PID (ppm)	LNAP Test (Red/Pink/None)	USCS	Soil Classification, Description and Notes USCS Name Soil description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, odor, staining. Include additional descriptive information in the soil description or notes.
75 4				MH	loss calc cement @ 75'
			4.1		
			10.7		
80 5			9.0	SM	^{w/gravel} silty sand: pred. sand: P-c well graded S rounded sand, lt. brown, no odor, unconsol., NC. No PI. <5% f. grained S-rounded gravel, 90% sand. S 1/2 silt
			7.2		
			13.7	MH	well cons. @ top of MH (~2") poss cement CaCO ₃ cement & FeO ₃ staining & manganese stain @
85 10			9.8		MH: pred. f. grained, 65% silt, 30% silt < 5-6 v. f. grained gravel, dark brown, no odor, NO PI, mod consol., no cement.
			21.6	MH	die kit, no change, no reds or pink dot = white CaCO ₃ nodules, mod consol not consol., waxy cement except for nodules, which are strongly cement.; CaCO ₃ nodules appear like a m-gravel sub angular gravel, best @
90 15			13.7		Note: loss CaCO ₃ @ 93'
			6.9		
			4.9		
			4.7		
95 20			4.7	SM	96-97 becomes more sand 55% sand, 45 silt unconsol.
			5.3		
			7.5	MH	becomes pred. f. grained, mod-well consol.
			4.5		
			4.7		



Project Name: STO 12

Project Number: _____

Date: 11/8/16

Boring ID: LS2-57

Boring Location:	Logged By:
Elevation and Datum:	Project Manager:
Start Date:	Drilling Contractor:
Completion Date:	Drill Rig Type:
Total Depth Drilled:	Casing Size:
Depth to Water:	Soil Sampling Method:

Depth Below Ground Surface (feet)	Sample ID	PID (ppm)	LNAP Test (Reaf Pink/ None)	USCS	Soil Classification, Description and Notes
					USCS Name
100.8			7.5		MH cont. some CaCO ₃ nodules (~10% of total) CaCO ₃ stringers
			19.3		
			4.3		
			11.3		
105.5					@106 becomes more cement w/ CaCO ₃
		1.3-7			
		1.6			
110.10		0.7	SP-SM		silty sand: poorly graded, 25% sand, 10% silt, 25% sand, 10% silt w/ coarse gravel, f-c grained subrounded to rounded, med to poorly consol, no PI no cement, brown, no odor
			SM		
		0.1	SW-SM		
115.25		4.8			becomes well graded @ 112.5' & increase in grain size, m-c sand rounded
			SM-MH		becomes more f-grained sand @ 115'
					becomes pred. f-grained sandy s.H @ 116'
					6" CaCO ₃ cement zone, stringy cement.
		0.0	SW-SM		pred. sand, well graded med. to coarse sand, no cement f-m sand, subrounded to rounded, brown, no odor, no PI
120.20		0.0			
		4.6			
125.25			None		



Project Name: STO 12
 Project Number: _____
 Date: 11/8/16

Boring ID: US2-57

Logged By: _____
 Project Manager: _____
 Drilling Contractor: _____
 Drill Rig Type: _____
 Casing Size: _____
 Soil Sampling Method: _____

Boring Location: _____
 Elevation and Datum: _____
 Start Date: _____
 Completion Date: _____
 Total Depth Drilled: _____
 Depth to Water: _____

Soil Classification, Description and Notes
USCS Name
 Soil description (i.e. % by weight, gradation, angularity) starting with largest percent, cementation, plasticity, color, moisture, odor, staining. Include additional descriptive information in the soil description or notes.

Depth Below Ground Surface (feet)	Sample ID	PI (ppm)	LNAP Test (Red/Pink/None)	USCS
125 0		3.8	None	SM-SM (cont.)
		7.8		SM-MH
		8.8		
		10.6		
		11.2		
135 20		9.6		SM
		13.4		
		11.4		MH
140 25		0.3		
		41.1	None	SM
		11.7		
145 20		53.3		
		69.9		
150 25		65.5		

w/ gravel
 sandy silt - pred. fine grained, f. g sand
~~55% silt, 30% sand, c. m. consol. w/ CaCO₃ nodules~~ 55% silt, 40% sand, 5% f-s gravel, No PE, no odor
 increase in gravel ~10%, still pred. f-grained
 Note: increased CaCO₃emat. m. consol @ 133-134
~~SM~~ @ 135.5-135.5-135.5 increased sand content, w. gravel @ 135' (1 1/4") CaCO₃ lense
~~SM~~
 gravel, pred. fine grained, moist
 silty sand: 75 sand, 25 silt, f-m gravel
 sand s-rounded,
 144-145: sand becomes more c. grained, w/ 2" gravel lense @ base of SM
 gravel = s-rounded to rounded, w/ f-m g
 @ 145-146' becomes saturated
 increase in gravel content gravel in small (2-3") lenses, s-rounded to rounded,
 Note: @ 149 increase manganese staining around gravel

Project Name: 510 12
 Project Number: _____
 Date: 11/8/10



Boring ID: LSZ-57

Boring Location:	Logged By:
Elevation and Datum:	Project Manager:
Start Date:	Drilling Contractor:
Completion Date:	Drill Rig Type: <u>Sonic</u>
Total Depth Drilled:	Casing Size:
Depth to Water:	Soil Sampling Method:

Depth Below Ground Surface (feet)	Sample ID	PID (ppm)	LNAP Test (Red/ Pink/ None)	USCS	Soil Classification, Description and Notes USCS Name Soil description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, odor, staining. Include additional descriptive information in the soil description or notes.
150 0					@ 151' loose m grained gravel, gravel becomes f grained, sand becomes more coarse grained (m-c grained) no odor
		74.1			
		44.3			
155 5		42.1		MH	CH Sandy silt w/ gravel - rare f-g gravel, f. sand, 65% silt, 35% sand, m. PI, no odor, well consol. non cement, brown, well sorted
		22.0			
160 10		54.8			
		38.1			
165 15		26.1		MH	lose PI, no PI, predom. f-grained silty sand, no odor, well consol. No cement, dark brown
		46.7			
		31.3		MH	MH w/ gravel increase in grain size & 10% f-in gravel modern lose gravel, red brown - no odor
170 20		41.6			
		20.6			FeO ₂ staining gravel lenses @ 172.5' & @ 173.5'
175 25				qu-gc	

Project Name: ST012

Page 8 of 10

JKR

Project Number: _____

Date: 11/8/14

Boring ID: LS2-57



Boring Location: _____
 Elevation and Datum: _____
 Start Date: _____
 Completion Date: _____
 Total Depth Drilled: _____
 Depth to Water: _____

Logged By: _____
 Project Manager: _____
 Drilling Contractor: _____
 Drill Rig Type: _____
 Casing Size: _____
 Soil Sampling Method: _____

Depth Below Ground Surface (feet)	Sample ID	PI (ppm)	LNAP Test (Red/Pink/None)	USCS	Soil Classification, Description and Notes USCS Name
175 0		119.8		SW-GC	well graded gravel w/ sand & silt < 10% fines, m-c sand, sub to round, w/ f. gravel, sub to rounded, dark brown, no odor, poorly consol., no noemat, no PI, wet
		14.0			
180 5		36.5			to silty sand
		35.0		MH-SM	sandy silt w/ occ. f. gravel: pred. f. grained dark brown-red, no PI, well consol, no emat, no odor, v. fine grained sand, sub round to round
185 10		49.1			
		67.1		GC-SF	well graded gravel w/ sand & silt, same as @ 175'
		58.1		SC-CH	Note: gradation change fining with depth
190 15		55.1		CH	sandy clay: pred. f. grained, high PI, no odor dark brown, no odor, well consol, no emat, no stain.
		62.7			
		66.3		CH-SC	clayey sand becomes more sand, m-c sand, sub-round, no odor, med consol, high PI to m. PI
195 20		62.5			1" CH @ 192-193 1" SC 194-195, 2" cobble zone sub-round to sand @ 195'
		38.8		MH	sandy silt: no PI, pred. fine grained, well consol, no emat, no odor,
		48.8			some CaCO ₃ stringers
200 25					

Project Name: CS10 12

Page 9 of 10

TKR



Project Number:

Date: 11/8/16

Boring ID: LS2-57

Boring Location:	Logged By:
Elevation and Datum:	Project Manager:
Start Date:	Drilling Contractor:
Completion Date:	Drill Rig Type:
Total Depth Drilled:	Casing Size:
Depth to Water:	Soil Sampling Method:

Depth Below Ground Surface (feet)	Sample ID	PI (ppm) (bagged)	PI (ppm) (direct)	LNAP Test (Red/Pink/None)	USCS	Soil Classification, Description and Notes
200 0			121.4		CL ML	Clay
			102.6			- manganese & FeO ₂ stains CaCO ₃ nodules @ 201-202'
205 5			69.1			- gradational change w/ more sand from MH to MH/SM, no PE, mod-well consol. from 200-205
			0.0 57.2			205-208 low PE
			59.1			
210 10			0.10 35.4		MH-SM	SILTY SAND TO SANDY SILT: dark red/brown, pred. fine grained gradationally becoming more sandy to 215-214 w/ <5% sub angular gravel, no odor, mod consol to well consol, no PI
			41.2			
215 15			0.10 49.8		SM-SC	SILTY SAND w/ GRAVEL: 7% sand, 10% gravel, 10% silt, well graded, mod consol, no PE, no cmat, dark brown, gravel sub angular, sub rounded, sub round sand, no odor
			0.10 43.4			@ 216' slightly higher PE becomes more plastic for 6"
			47.2		SM-MH	becomes predom. fine grained SANDY SILT mod to well consol, low to no PE, no odor, dark red-brown, well graded, w/ occ. tan silt stringers
220 20			0.10 42.3		SM-SM	
			29.8			WELL GRADED SAND w/ SILT: pred. sand, fine f-c grained, sub rounded to rounded, mod. consol., no PE, no cmat., occasional f. grained gravel, dark brown, no odor
225 25			0.10 24.4			

Project Name: S10 12
 Project Number: _____
 Date: 11/8/16

Page 10 of 10

FR



Boring ID: LS2-57

Boring Location:	Logged By:
Elevation and Datum:	Project Manager:
Start Date:	Drilling Contractor:
Completion Date:	Drill Rig Type:
Total Depth Drilled:	Casing Size:
Depth to Water:	Soil Sampling Method:

Depth Below Ground Surface (feet)	Sample ID	PID (ppm) (Correct)	LNAP Test (Real/Pink/None)	USCS	Soil Classification, Description and Notes
					USCS Name
235 0				SW-SM	Soil description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, odor, staining. Include additional descriptive information in the soil description or notes.
		20.3			
		22.6			
230 5					
	0.0	27.7			
		21.3			
235 10				SM-MH	occ. well graded SILTY SAND to SANDY SILT w/ GRAVEL; subrounded f.c. gravel (25%); sand = 45-55%; silt = 40-45%; dark brown, no odor, f. grained sand, sub-r. rounded, well consol. no cement, no PE
	0.6	26.1			
	0.0	40.7		SM-SM	SILTY SAND w/ occ. GRAVEL; SAND (8%) silt (15%) subrounded f.c. gravel; subrounded m.c. sand, mod. consol., no PI, no cement, dark brown, no odor well graded
	0.0	0.7			
240 15					gravel lenses @ 239' (4.6")
	0.0	23.2			
	0.0	13.8		SM-CH	SANDY CLAY w/ SILT: pred. fine grained high PI, dark red-brown w/ < 2% m-grained sub-rounded to rounded gravel
	0.0	6.3			45-55% sand; 45-50 clay/silt. Fe ₂ O ₃ stained, well graded
245 20					
250 25					

Project Name: ST012
 Project Number: 910110001.5310.03
 Date: 11/7/16

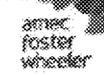


Boring ID: LSZ-61 (SBA)

Ground Surface (feet)	Sample ID	PID	LUMP KIT	USCS	Soil Classification and Notes
					Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
25				ML	
		32.3	N		
30				CL	Clay with sand (29%) 76% clay, 24% sand (F-GRN-CGRN) SA/SR, MC → SC, M-PL, light-red brown color, moist, no odor/stain.
		37.2			
35		304.9	Y		Sample ID: ST012-LSZ61-35-110716
				SP-SM	Poorly graded 85% sand (F-GR-CGD), 5% silt, 5% clay, 5% gravel, light brown, SA-SR, N-C, N-P, no odor/staining, dry (Poorly graded sand w/ silt)
40		38.2			
		43.4			tense of clay (43.5' - 45.0') M-C, M-PL, moist, dark brown, no odor/stain
45		44.8			
		46.3		SM	47.5' clayey sand (F-GR/M-GR) 70% sand, poorly graded, SA/SR, 25% clay, N-C, M-P, 5% gravel SA/SE, no odor/staining, dry, light brown - medium brown

Project Name: SP12

Project Number: 9100110001.9310.03



Date: 11/7/16

Boring ID: LS241 (SB19)

Depth Below Ground Surface (feet)	Sample ID	USCS	Soil Classification and Notes Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information (For-CGR)
50	12.5	SP SM	85% SAND, Poorly graded, SA(SK), 5% silt, 5% clay, 5% gravel, SA(SK), dry, no odor/stain, dry, medium brown, N-P, N-C (Poorly graded SAND w/ silt)
55	5.3		30' increase of gravels (10%) & silt (10%)
	18.6		
60	10.4	SC	clayey SAND (40%) 60% SAND (poorly graded, SA(SK)), 30% clay, M-Pl, N-C, 5% silt, 5% gravels (SA(SK)), dry, no odor/stain, medium brown.
65	1.3	SC	change in color to med brown w/ white streaking (CaCO ₃) 63'-65' clayey sand (M-C) increase in cementation @ 65'
70	3.2		
	1.9		72'-73' change in color to med brown w/ white streaking (CaCO ₃)

ALAR

Project Number: 9101110001.9310.B

Date: 11/7/16

Boring ID: LSZ-61 (SB19)

ERIC Foster Wheeler

Ground Surface (feet)	Sample ID	PID	LN/PL	USCS	Soil Classification and Notes Name (USCS Symbol); color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent cementation, plasticity, odor, staining, any additional information
75		1.2			
					76'-78' lens of decreased cementation
				CL	clay w/ sand USC clay, 50% sand, (F-GRN-M-GRN) SA/SR, 5% gravel, N-C/W-C, dry, L-PL, brown, no odor/stain, (some small cobbles)
80		0.6			80'-82' change in color: light brown with some white streaking (CaCO ₃)
85		0.3			(85'-88.5') (MC-MC) increased cementation, change in color to light brown
90		1.6		SM	90'-92' lens of sand w/ clay & silt (70% sand, 15% clay, 15% silt) (MC, M-PL, fine gr sands, SA/SR, no odor/stain, moist, (poorly graded)) silty sand (70% sand, 20% silt, 5% clay, 5% gravel/s) F-gr-gr sands, SA/SR, dry, N-PL, N-C, no odor/stain medium-light brown.
95		1.2			96'-97.5' lens of increased sand content.
				CL	clay w/ sand 70% clay, 30% sand (F-GRN-C-GRN), SA/SR, W-C → M-C (some moderately cemented nodules) M-PL, medium brown, moist, no odor/stain
100					

ERIC Foster Wheeler

11/7/16

Boring ID: LSL-VI (8619)

Ground Surface (feet)	Sample ID	PID	LNAP	USCS	Soil Classification and Notes
					Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
100		0.7		CL	100'-102' Change in color - light brown/whitish
105		0.6		SC	105'-106' base of well graded fine grained silty sand. Clayey sand 75% sand (F-GM) SA/SR, 25% clay, (some silt present), occasional cemented nodules L-PL, brown to deep red, slightly moist, no odor/stain
110		0.6			
115		0.7		SC	increase in cemented nodules @ 115'
		0.2			117'-119' Well graded sand lense (fine grained) SP/SC NE, N-PL dry, no odor/stain
120				SC	
		0.4		SM	123' Silty Sand 70% Sand (F-GM-M-GM) SA/SR, 30% silt N-C, N-PL, brown, dry, no odor/stain
125					



Project Number: 9101110001-1310.02
 Date: 11/7/16

Boring ID: LSZWI (SB 19)

SMC
Foster
Wheeler

Depth Below Ground Surface (feet)	Sample ID	PID	H/A/R	USCS	Soil Classification and Notes Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
125		0.6		SM	
				CL	126' clay 70% clay, 30% sands (F-GRN), SA/SK WC-MC, M-PL, red to brown, slightly moist, no odor/stain
130		0.8			
					131' Noticeable Change in Coloration (131'-134') • light brown with white streaking • increased nodules • strong cementation
				CL	134'
135		0.9		SC	clayey sand (136') 70% sand (F-GRN-CGRN) SA/SK, 20% clay, 10% gravels, L-PL, N-C, red/brown, slightly moist, no odor/stain. (trace gravels & cobbles present)
140		0.7		SP	142' increase of moisture, less of poorly graded sand w/ gravel: N-PL, N-C, brown, moist, no odor/stain
				SC	144'
145		0.8			147' increase of moisture (wet) & gravels (trace)
		0.8			

Date: 11/7/16

Boring ID: LSZ01 (SB19)

Boring Location:	Logged By:
Elevation and Datum:	Project Manager:
Start Date:	Drilling Contractor:
Completion Date:	Drill Rig Type::
Total Depth Drilled:	Casing Size:
Depth to Water:	Soil Sampling Method:

Depth Below Ground Surface (feet)	Sample ID	PI (ppm)	LNAP Test (Red/ Pink/ Name)	USCS	Soil Classification, Description and Notes USCS Name Soil description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, color, moisture, odor, staining. Include additional descriptive information in the soil description or notes.
15.0		0.8		SP-SC	Poornly graded sand w/ clay & gravel (70% sand, (F-GRN/C-GRN) SA/SR, N-C, W-PL/M-PL, brown, moist, no odor/stain (30% clay, 10% gravel)
15.5		1.0		CL	Clay (80% clay, 20% fine grain sands, (rare coarse grained sands) / rare-occasional small gravels) m-PL, m-C, red-brown, moist, no odor/stain
16.0		1.5			
16.5				SC	CLAYEY SAND - 70% F-GR SAND, 30% CLAY; NC MED PI, REDDISH BROWN, MOIST, NO ODOR, NO STAINING
17.0		0.12		SP-SC	SAND w/ CLAY - 90% F-GR SAND, 10% CLAY, NC, NP to LOW PI, BROWN, MOIST, NO ODOR/STAIN
17.2		0.1		CL	CLAY - 80% CLAY, 20% IVF F-GR SAND, NC, MED PI, LIGHT BROWN, MOIST, NO ODOR/STAIN w/ SOME DARK BROWN & RED STREAKS
17.5				CL-MI	NOTE: STRONG CEMENTATION FROM 16.9' TO 17.0'
17.6				SP-SC	SAND - 95% F-GR SAND w/ OCC. M-C-GR SILT SAND w/ 5% FINES, NC, NP, BROWN, MOIST TO WET, NO ODOR/STAIN
17.25					72.5% SILTY CLAY - (SEE NEXT PAGE)

Project Name: STUBS

Project Number: 910110001.0310.03

Date: 11/7/10 - 11/8/10

Boring ID: LSZ-101 (SB) 19



Depth Below Ground Surface (feet)	Sample ID	PID	USCS	Soil Classification and Notes Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
175		0.2	CL ML	172.5' SILTY CLAY - 60% CLAY, 30% SILT, 10% V-F GR SAND NC, MED PI, BROWN, MOIST, NO ODOR/STAIN. NOTE: SANDY LAYER FROM 173' TO 173.5' NOTE: NO RECOVERY FROM 176' TO 186', CORE FEEL OUT. IT WAS RECOVERED ON THE NEXT RUN BUT IT'S MIXED UP
180		0.1	SP	176' CLAYEY SAND - 80% F-M GR SR/SA SAND, OCC C-GR SAND + F-GR SR/SA GRAVEL, 20% CLAY (CLAY IS IN CHUNKS, NOT SPREAD THROUGHOUT SAND), NC, LOW TO MED PI, BROWN, MOIST TO WET, NO ODOR/STAIN, CLAY IS IN CHUNKS, NOT SPREAD THROUGHOUT SAND, VERY WET FROM 176' TO 178'
185		1.3	SP	181' SAND - PRD F-M GR SR/SA SAND W/SOME C-GR SR/SA SAND & OCC. SR/A F-GR GRAVEL, NC, NP, GREYISH BROWN, WET, NO ODOR/STAIN. NOTE: MOD. CEMENTATION FROM 189.5 TO 190.0'
190		0.5	CL ML	190' SILTY CLAY - 70% CLAY, 20% SILT, 10% V-F GR SAND, NC, MED PI, LIGHT BROWN, MOIST, NO ODOR/STAIN
195		0.7	CL ML	191' CLAYEY SAND - 60% V-F-F-GR SAND, 40% CLAY, W/LC W/OCC. NODULES, MED PI, LIGHT BROWN W/ WHITE STEAKS, MOIST, NO ODOR/STAIN NOTE: INCREASED CEMENTATION FROM 193-194' NOTE: CLAY LAYER FROM 195.5 TO 196.0' NOTE: DECREASED CLAY TO 20% FROM 196 TO 199' NOTE: OCC CEMENTED NODULES BELOW 199'
200				

Contract Number: 910116001 SB10.03
 Date: 11/8/16

Boring ID: LSZ-61 (SB-19)

Depth Below Ground Surface (feet)	Sample ID	Oil in Soil	USCS	Soil Classification and Notes Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
200		0.0	SC	CLAYEY SAND CONT
			CL	@201' CLAY - 90% CLAY, 10% V-F-GR SAND, NC, HIGH PI, BROWN w/ LENSES OF WHITE SAND, MOIST, NO ODOR/STAIN, WHITE SAND LENSES DO NOT REACT TO HCL.
205		0.1		NOTE: WLC FROM 202' TO 205.5'. NOTE: FINE SAND INCREASED TO 15% w/ OCC C-GR SR SAND, BLACK STREAKS + SPOTS FROM 205' TO
			CL	@207' SANDY CLAY - 65% CLAY, 30% V-F-M-CR SR/SA SAND, W/OCC C-GR SR/SA SAND, 5% F-GR SR/R GRAVEL, WLC THROUGHOUT w/ STRONGLY CEMENTED NODULES UP TO 3" IN DIA. MOIST, NO ODOR/STAIN
210		0.0		@209' CLAYEY SAND - 70% PRODF-C-GR SR/SA SAND, 20% CLAY, 10% F-GR SR/SA GRAVEL, NC, LOW PI, BROWN, MOIST, NO ODOR/STAIN NOTE: DECREASED CLAY + INCREASED GRAVEL FROM 212' TO 213'
215	ST012-15210-215-110316	17.9	SW	NOTE: AMBIENT SPIKED AT 143 PPA WHILE DRILLING.
		11.9		UNGRADED @215' SAND w/ GRAVEL - 80% F-C-GR SR/SA SAND, 20% F-GR SR/SA GRAVEL, NC, NP, GRAYISH BROWN, WET, STRONG ODOR, NO STAINING.
220	ST012-15210-220-110316	13.5	CL	NOTE: WLC FROM 215 TO 215.5.
		15.0	N	@220' CLAY - 90% CLAY, 10% V-F-GR SAND, NC, HIGH PI, REDDISH BROWN, MOIST, VERY SLIGHT ODOR, NO STAIN
		16.2	N	
			SP	@222' SAND - 95% V-F-GR SAND, 5% CLAY, NE, NP TO LOW PI, BROWN, MOIST, NO ODOR, NO STAIN
225	ST012-15210-225-110316	14.3	SP	@224' SAND w/ GRAVEL (SEE NEXT PAGE)

Project Name: STO12
 Project Number: 910110001550.03
 Date: 11/8/16



Boring ID: LSZ (S) (SB-19)

Depth Below Ground Surface (feet)	Sample ID	USCS	Soil Classification and Notes Name (USCS Symbol): color, moisture, material with description [i.e. % by weight, gradation, angularity] starting with largest percent, cementation, plasticity, odor, staining, any additional information
223	137	SP	<p>@224' SAND W/ GRAVEL - 80% F-M-GS SR/SA SAND W/ SOME C-GS, 20% F-GS SR/SA GRAVEL, NC, NP, DARK GRAYISH BROWN WET, STRONG ODOR: SOME STAINING, NOTE: LESS GRAY STAINING BELOW 226.5'</p>
	138	N	
	10		
230	12	SC	<p>@228.5' SAND W/ GRAVEL & CLAY - 70% F-M-GS SR/SA SAND W/ SOME C-GS, 20% F-GS SR/SA GRAVEL, 10% CLAY, NC, LOW PI, GRAYISH BROWN, WET, SOME ODOR, NO STAINING,</p>
	10.3		
	10.2		
235	0.8		<p>@238' CLAY - 90% CLAY, 10% V-F-GS SAND, NC, HIGH PI, REDDISH BROWN, MDIST, NO ODOR/STAINING</p>
	0.3		
	0.3		
240		CL	<p>@240.5' SANDY CLAY - 60% CLAY, 40% V-F-GS SAND - WLC - MED PI - LIGHT BROWN - MDIST, NO ODOR/STAINING NOTE: NO CEMENTATION BELOW 243'</p>
	0.6		
245			